

# ***FOCUS ON VISION***

**People who are blind or visually impaired**

**Needs and Services**

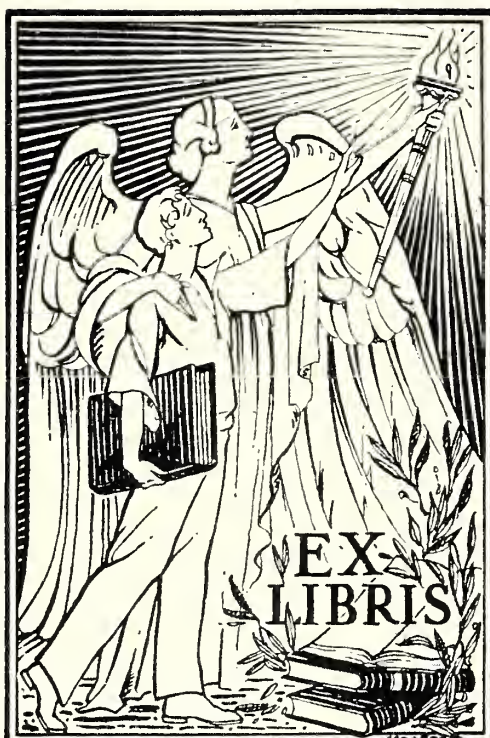
PREPARED BY

The Advisory Council for the  
Community Welfare of Disabled Persons

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## FOCUS ON VISION REPORT

### FOREWORD

This is the final report undertaken by the Advisory Council for the Community Welfare of Disabled Persons which was disbanded in 1987. The Department of Social Welfare has agreed to proceed with publishing the report, since it is the first attempt to bring together in such a comprehensive way, information about people who have low vision or are blind.

The report is the result of eight experts and many years work, considering the medical social and rehabilitation needs of these people. I believe it is unfortunate that this information has been unavailable for so long in this collated form. Although some may already be becoming dated, it is important that this resource is widely available.

Now with its publication, it will provide the beginning of a data base on which to form an action programme for those concerned about the problems associated with low vision. I hope it will become a source of valuable resource material for those working with people with these needs.

I thank the Working Party on Low Vision Services and the Advisory Council for their work, and hope that it may challenge the community and those working with people who are blind or have low vision to overcome handicaps caused by the disability.

A handwritten signature in cursive script that reads "Annette King". The signature is fluid and elegant, with a large, sweeping 'A' and a long, trailing 'g'.

Annette King  
Parliamentary Under-Secretary to the  
Minister of Social Welfare



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## PART I – LOW VISION

### CHAPTER 1: INTRODUCTION

#### BACKGROUND TO THE REPORT

1.1 The working party was originally set up in April 1978 as a sub-committee of the National Civilian Rehabilitation Committee, with a brief to consider medical, social, and rehabilitation measures for those persons suffering from a visual handicap or blindness.

The original sub-committee was chaired by the representative of the Department of Health and comprised members of the Departments of Social Welfare and Education, an ophthalmologist and an optometrist.

1.2 After a number of meetings it became clear that a much broader investigation should be undertaken. This could more appropriately take place under the aegis of the Advisory Council for the Community Welfare of Disabled Persons. Consequently, the sub-committee moved to become a Working Party of this Council in April 1980 and has subsequently reported to the Chairman of the Advisory Council as the Low Vision Services Working Party. All members of the original sub-committee agreed to remain, and three new members were invited to join. These were the Director and Chairman of the Royal New Zealand Foundation for the Blind, and an ophthalmologist responsible for the running of a Low Vision Clinic.

1.3 The Advisory Council was disestablished in December 1987 and the Working Party with it. However, the Department of Social Welfare has agreed to publish the report, since it considers that the information brought together here provides a valuable, collated resource of material on present provisions and services and identified needs of people who are blind or visually impaired.

Members who served on the Working Party were:-

Dr D. Sturman	Convenor, Ophthalmologist, Low Vision Clinic, Wellington Hospital
Dr E. R. Dowden	Department of Health
Dr L. Boulton	Ophthalmologist, Low Vision Clinic, Palmerston North Hospital
Mr J. J. Brophy	Department of Social Welfare
Mr A. Q. Bruce	Department of Education
Mr G. F. Gibbs	Director, Royal New Zealand Foundation for the Blind
Mr D. M. McKenzie	Chairman, Royal New Zealand Foundation for the Blind
Mr P. J. Turner	Optometrist, Low Vision Clinic, Wellington Hospital

## TERMS OF REFERENCE

### 1.4 The working party's terms of reference were:

- . To review the present provisions for the visually impaired child or adult, in the areas of health, education and welfare.
- . To investigate and consider the particular requirements of the visually impaired person in each of the following age groups:-

Childhood	0-14 years
Young Adult	15 - 39
Middle-aged	40 - 64
Elderly	65 +
- . To make recommendations regarding the provision of additional services in health, education and welfare for the visually impaired person and to suggest priority areas in their implementation.
- . To consider the present extent of vocational training, the steps undertaken to provide assistance for the visually impaired person in gaining or retaining employment and the areas where further assistance is needed.
- . To investigate the present distribution and characteristics of the low vision clinic and make recommendations as to how and where other clinics might most appropriately be established.
- . To review and consider the methods by which the provision of low vision aids and appliances might best be undertaken.
- . To collect reliable data from all available sources, relating to the number of New Zealanders who are either legally blind or have low vision and to recommend ways in which this data could be brought up to date and made available.

## DEFINITION OF LOW VISION

1.5 The definition of low vision used by the Low Vision Services Working Party is based on the World Health Organisation definition, but a somewhat broader approach has been taken.

The following groups are included in the Working Party considerations:

- (A) Those with corrected visual acuity of 6/24 or worse.
- (B) Those who cannot read newsprint even when vision is corrected by conventional glasses or contact lenses.
- (C) Those with significant visual field loss.
- (D) Those with any other serious loss of visual function which impairs them in their domestic or occupational environment.



In subdividing Group (A) the World Health Organisation defines the following five sub categories:

- |    |                      |                          |
|----|----------------------|--------------------------|
| 1. | Low vision moderate  | 6/24 to better than 6/60 |
| 2. | Low vision severe    | 6/60 to better than 3/60 |
| 3. | Blindness profound   | 3/60 to better than 1/60 |
| 4. | Blindness near total | 1/60 to light perception |
| 5. | Blindness total      | No perception of light.  |

There is considerable variation throughout the world as to what level of visual acuity constitutes blindness. The Royal New Zealand Foundation for the Blind registers persons with corrected visual acuity of 6/60 or worse and/or a visual field of 20° or less at its widest diameter. It will be noted that the Working Party includes visual field loss in Group (C) of its definition. The Department of Social Welfare in New Zealand, for benefit purposes, defines blindness as visual acuity of 3/60 or worse (which fits into the W.H.O. classification) and includes a visual field category where the visual field is not greater than 10° at its widest diameter.

1.6 The Working Party included within its brief both low vision and blindness as defined by the World Health Organisation. The transition between the two is gradual and in fact a significant amount of visual assistance can often be provided for people who are legally blind. With deterioration in vision an individual may pass from one sub-category into the next.

1.7 Utilising low vision aids, persons in sub-categories 1 and 2 of the W.H.O. definition should be able to perform tasks requiring detailed vision. As progressive impairment moves towards total blindness the rehabilitative approach modifies its emphasis. Low vision aids become less effective and the training direction changes towards mobility instruction and teaching skills of daily living and for the work force where applicable.

## CHAPTER 2: PROBLEMS OF VISUAL IMPAIRMENT

2.1 Whatever the degree of loss involved, visual handicap has profound and far-reaching implications for individuals and families and has serious social, economic, physical and psychological consequences. Loss of vision may be progressive, and its consequences may be drawn out over many years. There are wide individual differences in the loss of vision and its implications.

2.2 In general, the more that vision is impaired, the more assistance will be needed to equalise the visually handicapped person's opportunities in the educational, social, vocational and recreational aspects of life. Because of this, those with severe loss are more readily identified than are those falling into the low vision category. Most of the comments in this chapter have more relevance to those with a severe visual handicap, although many of the problems are shared by all those with a disabling degree of loss of vision.

### CHILDHOOD

#### 2.3.1 Developmental Problems

The developmental problems facing a severely visually impaired child are major. Lack of a sensory channel, particularly the one of sight, has profound implications for a child's development. Without the co-ordinating sense of sight, the blind child understands the world later than and in a different way from, a child with full sensory equipment. In early childhood eye contact must be replaced by physical contact. Parents are not "there" by virtue of their smiling responses to the infant and detailed explanations and first-hand experiences are necessary to facilitate concept development. Two areas where specific developmental problems have been identified are mobility and language.

#### 2.3.2 Mobility

Selma Fraiberg (1977) in a study of congenitally blind but neurologically intact children found that their development tended to become arrested at the mouth-centred stage. The development of a sense of "body self" and "something out there" was slow to mature.

Vision plays an important role in the achievement of mobility since the development of eye-hand co-ordination, and a response to a "visual-lure" encourages exploration and brings about body movement. Fraiberg found that blind children did not use their hands to reach out to attain objects or information. Neither did they clasp their hands together but held them up at shoulder-level. The potential loss of handiness is especially important for those children who may need to use braille.



Blindness does not seem to affect postural development such as rolling, or sitting alone, but it does cause a marked developmental delay in self-initiated mobility activities, such as creeping, pulling up to stand and independent walking. Most mobility activities are largely initiated by visual stimuli and lack of such stimuli leads to prolonged immobility. For example, a baby may reach for an object and lurch towards it. A sighted infant will see that it has moved closer and may repeat the manoeuvre, further developing crawling skills. A blind infant has no way of knowing whether or not it has moved in relation to the object and is more likely to stay on its hands and knees, rocking in a stereotyped motion.

Ear-hand co-ordination (reaching for an invisible distant object in response to sound) develops late in the first year and this maturation is needed before a congenitally blind child is lured by sensory stimuli into attempting independent locomotion. That the connection between a distant sound and a distant object is a difficult one to make is evidenced by blind babies' lack of motor response to environmental sounds during the second half of their first year. This caused Sonksen (1979) to comment on the number of referrals of blind children to audiologists for supposed hearing loss.

An aid has been developed by Bower (1977) to assist congenitally blind babies overcome this deficit. An ultrasonic aid is fitted like a cap and various objects presented within the infants' reach. Using this device, babies began to reach for objects within the range of their cap. As yet this aid has not been fully evaluated and is not commercially available.

### 2.3.3 Language

Language development in the first two years, such as the innate capacity to use vocalisation and imitation of sounds and words, shows achievements within the normal range for sighted children as measured on the Bayley Scales. (Fraiberg 1977, Sonksen 1979).

As the development of more meaningful use of words, word combinations and concepts progresses, between ages 2 1/2 and 5 years, there seems to be a stage where development is arrested and lags behind that of sighted peers.

Children without vision take longer to develop a world of object names and to associate actions with objects. This stage appears to correspond with, or follow, the delayed mobility and later onset of creeping and walking they experience. This delay in the mature use of language and an ability to classify and label things, seems largely due to experiential poverty. Linkages between names and actions are facilitated by vision and blind children are confronted with a unique problem in being unable to match concepts due to limited personal experience in the second year. Lack of vision may lead to a lack of integration of experiences unless they are helped with systematic search techniques and with forging information links.

Blind babies also experience a later acquisition of the concept "I", and of the capacity for self representation in play than do sighted children. This is largely attributed to the difficulty of constructing a self-image in the absence of vision. Mirror-play and peek-a-boo games are not a play option for blind children.

#### 2.4 School

At this stage, with the focus on peer-group play and social interaction, social difficulties may develop. Pupils with little sight are likely to have heavy demands made on them to reach measurable standards comparable with sighted children. As well as learning the day to day curriculum children with visual impairments must learn special coping mechanisms. There may also be problems with family relationships: parents may be unsure of the point when extra help becomes over-protection, or they may have unrealistic expectations of their child.

#### 2.5 Implications for Assistance

The need for early identification of a blind or visually handicapped baby is vital. While studies such as those by Jones (1963) and Fraiberg (1977) show that developmental delays in the establishment of independent mobility, a sense of self and word combinations or concepts are common, they also show that children whose only handicap is blindness can eventually learn these skills and function within the normal ability range.

The provision of such stimulus and training needs early and continuing assistance to parents of visually impaired children. In particular, there is a need to develop an awareness in parents of:

- the child's greater than normal need for human personal contact, sensory stimuli and oral language input;
- an understanding of developmental principles of growth and guidance in order that these be used or adapted to encourage the baby's development;
- the need for constructive attitudes towards and realistic expectations of the baby's development.

### ADOLESCENCE AND YOUNG ADULTHOOD

2.6 Many children encounter problems on reaching adolescence such as lack of self-confidence; the visually impaired child has all the usual adolescent problems and has additional and special problems directly related to lack of sight. For instance, visually impaired adolescents may not use touch and cannot use sight to develop a concept of the opposite sex. They must also learn, without observing visually, differential touch taboos between people in different relationships to each other, such as mother/child, friend/friend, husband/wife and about many behavioural norms in the area of relationships and human development.

2.7 Lack of sight inhibits many of the spontaneous questions which arise during the developmental stages of a sighted child. Home is probably the best place for children to learn about sex in a natural manner, but unfortunately many parents experience uneasiness in discussing this area of human development whether their child has impaired sight or not. The problem is compounded when children are living in an institution and are away from their parents and family environments for extended periods. In addition, their peer group may not provide an alternative source of information.

2.8 In such cases there is a need for residential staff to act in loco parentis. However because of the sensitivities of the community to this issue, it is essential that the consent of parents be obtained before any formal instruction is given. Parents, residential staff, teaching staff and school administration need to discuss together how this important aspect of education may best be met. It is then essential that residential staff, or any other staff involved in informal question answering, or more formal instruction, be given adequate guidance themselves. (See 6.3)

2.9 Written material to provide information for children at various development levels is available in Braille. At secondary level, more explicit material in written or diagrammatic form is available, as is a mannikin. These resources should be developed and be freely available so that with consent of parents and staff, individual children may have access to such material in the privacy of their own room to permit adequate individual learning.

Recommendation 1: To the Department of Education and the RNZFB.

That programmes to assist the parents of congenitally blind children to enhance their children's development be continually reviewed and further developed.

Recommendation 2: To the Department of Education and the RNZFB.

That seminars be arranged to enable parents of blind children, administration and residential staff to discuss how they can best meet the needs of their children in the areas of human development and sexuality.

Recommendation 3: To the Department of Education.

That resources be made available for developing a collection of material such as books, tapes, tactile diagrams, dolls and mannikins so that visually impaired children can be assisted to develop an adequate knowledge of human sexuality.

2.10 Adolescence is often the time when disabled youngsters realise that they will not grow out of their disability and this may have a profound effect on their sense of personal worth. The self-concept which is developed in adolescence is a crucial factor governing the way in which a person comes to terms with his or her visual impairment. Their perceived problems may be overwhelming if their self-concept is fragile and consequent apprehensions about adult life may inhibit successful completion of the tasks of adolescence. A tendency for visually impaired adolescents to fix a negative identity should be regarded as a major developmental hazard.

2.11 Many visually impaired young adults find the lack of an existing peer group to be a problem. This lack of a peer group can create an identity problem as well as an inability to deal with group situations, possibly leading to fears about social situations such as parties and clubs, which may hinder social development. Contact with other young adults of a similar age who have a visual impairment provides a peer-group and a secure base from which the individual could venture forth. A group situation can help widen available options for activities. At present the bulk of the activities of the RNZFB are directed at the pre-school and school-age child, and at older people who become blind. While member services are available for the young adult group, they could perhaps be targetted more specifically to their special needs.

Individuals continue their growth and development throughout life, but the impetus towards emotional and spiritual growth is especially strong during adolescence. This is also a time of concern with vocational and social success, when the child is moving towards becoming an independent, responsible, functioning adult of worth.

2.12 As maturity and independence increase, low vision and blindness can create special difficulties in the following areas:

- Career choice. The effect of visual limitations on personal choice. Possible prejudice by employer against employing someone with a disability.
- Ability to enjoy relationships without visual nuances of contact.
- Lack of privacy. Difficulty in knowing whether one is alone before undertaking a private conversation or personal action, or if one is continuing a conversation when the other participant has left.
- Recreational pursuits limited. Particular difficulties in following sport as a spectator.
- Financial loss - either by reduced income, or additional expenses incurred, i.e. the need to use taxis for work.
- Need for special help in coping with an unfamiliar environment.
- Inability to receive social information through a visual medium - i.e. billboards, transport information, signposting, advertising.
- Independence. Probable need for more supervision than is normally required by someone of the same age and sex.
- Concern over future parenthood possibilities (see Recommendation 8).



It is important to ensure that young blind people are secure in their social competence and personal efficiency, as this removes possible apprehensions about adult life and frees them to develop their full potential.

Recommendation 4: To the RNZFB.

That the needs of the visually impaired adolescent and young adult be given special attention, and social support groups be established in the main centres.

### Parenthood

2.13 Some parents who are visually handicapped feel that their pre-school children are being deprived of educational and developmental experiences. Resources such as tapes of songs, stories, rhymes and activities accompanying picture books, and suggested activities able to be provided by the blind parent within the home could provide practical help.

Recommendation 5: To the Department of Education and RNZFB.

That the Department of Education and the RNZFB combine resources to develop a resource package for parents who are blind.

### MID-LIFE AND OLD AGE

2.14 A visually impaired adult reaching mid-life is subject to the same physical changes as everyone else. The lessening of hearing acuity is a serious problem and there may also be a loss of tactile skills. Independent mobility may be impaired by slowed reflexes and in addition, compensation by senses other than sight may be less adequate than in earlier life.

2.15 For the newly blinded person the adaptation is more complex and severe. The impact of blindness affects the whole person and changes the course of their lives dramatically. The usual reaction to loss of vision includes protest, anger, disbelief or partial denial, and pining for the sighted state, followed usually by a recovery phase. Routine life tasks such as eating, dressing and housekeeping have to be relearned.

2.16 For elderly people loss of sight is frequently only one of many disabling or impairing conditions. They are faced with complicated problems of adjustment and adaption in practically every phase of their daily lives. They have not only to relearn how to put on clothes and attend to personal hygiene, but to pierce the isolation which frequently follows a visual handicap.

2.17 As well as problems specific to lack of vision, tasks related to personal care, meal preparation, home maintenance, shopping and laundry, are likely to require extra energy and resources if they are to be dealt with effectively. Impairment of vision may be disproportionately disabling (a factor which must be taken into account when using visual acuity measures).

2.18 With loss of confidence an elderly individual may become housebound. They may also be cut off from using the telephone through an inability to look up the number or count the dial spaces. Feelings of insecurity, loneliness and worthlessness may develop. Loneliness and isolation may be a major problem.

2.19 Self-esteem redevelops from attempting and mastering self-sufficient acts. Research shows that in visually impaired individuals, limited mobility is determined not by degree of vision loss but by non-acceptance of loss. An acknowledgement of realities is associated with a willingness to acquire other skills, leading to the individual's increased competence.





## CHAPTER 3: EPIDEMIOLOGY OF LOW VISION

### INCIDENCE

3.1 Accurate statistics on low vision and blindness are difficult to obtain anywhere in the world. However the National Health Statistics Centre maintains a register of enrolments with the RNZ Foundation for the Blind. It keeps a living register of those enrolled at a point in time and also analyses new registrations annually. The register includes all those with corrected visual acuity 6/60 or worse and those with a serious loss of visual field.

There were just over 7,000 people enrolled with the Royal New Zealand Foundation for the Blind at 1 May 1986, or 0.15% of New Zealand's population.

3.2 More detailed information is available from three particular sources:

- 1968/69: new enrolments registered with the Royal NZ Foundation for the Blind;
- 1978/79: new enrolments registered with the Royal NZ Foundation for the Blind;
- 1980 census: all living enrolments with the Royal NZ Foundation for the Blind as at 1 December 1980.

3.3 Just how many people are in the unregistered category of 6/24 to better than 6/60 who make up the "Low vision; moderate", or who would come into the low vision category on functional grounds such as inability to read newsprint, would be difficult to estimate. There are no figures available in New Zealand or in other countries on this group. A pilot survey done in the United States of America, to discover whether the occupants of randomly selected houses could read newsprint found that 1% of the population was in the low vision and blindness category. If this is accepted as a reasonable estimate of the prevalence in New Zealand, it gives a figure of 30,000 approximately for New Zealand.

3.4 Those registered with the Royal New Zealand Foundation for the Blind can be suitably divided into four age groups: Childhood, (under 15 years); young adulthood, (15-39 years); middle-aged, (40-64 years); and elderly (65+ years).

The most recent figures analysed are for the registered blind in New Zealand at 1 January 1980.

**TABLE 1: BLINDNESS CENSUS AT 1.1.80 WITH PREVALENCE RATE PER 10,000**

Age in Years at Census	Total	Percentage	Prevalence Rate per 10,000
0-14	385	8.2	4.48
15-39	768	16.3	6.17
40-64	789	16.7	10.66
65 and over	2760	58.4	90.28
Not recorded	21	0.4	0.01
TOTAL	4723	100.0	14.99

3.5 Registration with the RNZFB is voluntary, but is reasonably complete in the three younger age groups. No doubt there is some under registration of the elderly, although this group accounts for 80% of new registrations. The prevalence rate rises markedly for those 65 years and over and this group presents a major public health problem.

3.6 As regards sex, males were in excess of females in the childhood and young adult groups but this ratio changed in the 40-64 age group, and in the elderly, females outnumbered males by well over two to one. To a certain extent this reflects the preponderance of females over males in the population of those 65 years and over in New Zealand, but elderly females also may be more likely to register.

## CAUSES

3.7 The causes of blindness and low vision may be coded according to site-type, and according to etiology. The two classifications can then be cross tabulated.

### Childhood (0-14 years)

3.8 In 1968 and 1969 there was a yearly average of 39 new cases for every million population in this age group. In 1978 and 1979 the figure was 59 new cases per million.

3.9 The five major site-type causes of visual loss in childhood at the blindness census on 1.1.80 were cataract, congenital ocular malformations, optic atrophy, albinism and optic pathway involvement (see Table 2). When the new enrolments for 1978 and 1979 are examined alone to show current problems, the five principal causes are albinism (13.5%), congenital cataracts (12.5%), optic atrophy (10.5%), congenital ocular malformations (7.5%) and nystagmus (6%).

**TABLE 2: SITE-TYPE CAUSE OF VISION LOSS IN THOSE AGED 0-14 REGISTERED WITH THE RNZFB 1980**

Major Site-Type Cause	Number	Percentage
Congenital cataracts	73	19.0
Congenital ocular malformations	61	16.0
Optic atrophy	41	10.5
Albinism	28	7.5
Optic pathway involvement	27	7.0
Nystagmus	25	6.5
Myopia	7	2.0
Other causes less frequent	123	31.5
<b>TOTAL</b>	<b>385</b>	<b>100</b>

3.10 When etiology is considered it is found that 78.5% of the cases in the table are due to congenital and hereditary disorders. Genetic counselling could reduce the incidence of hereditary disorders but this is a difficult field in which to give advice until the family inheritance pattern has become clearly established. However there is scope for preventive measures here and also as regards infectious diseases affecting the mother during pregnancy. Over the period 1968-1972, 13% of the new cases per year were found to be due to infectious diseases. Rubella accounted for some cases of congenital cataract, some cases of congenital ocular malformations and also of retinopathy. There are still cases being reported of blindness due to rubella affecting the developing embryo in the early months of foetal life but the incidence is low at present. The immunisation campaign against rubella is now being pursued with more vigour in New Zealand.

Toxoplasmosis and toxocariasis are other causes of visual loss in childhood which are coded under infectious diseases.

Recommendation 6: To the NZ Society for the Prevention of Blindness, the Social Science Research Fund Committee and the Medical Research Council.

That medical research into congenital and hereditary blindness, particularly in relation to family inheritance patterns in New Zealand be undertaken.

Recommendation 7: To the Ophthalmological Society of New Zealand.

That ophthalmologists provide basic counselling and where required refer clients for specialised genetic counselling and that a list of genetic counselling facilities be prepared and circulated.

Recommendation 8: To RNZFB and Department of Education.

That all students at Homai College who are about to leave school receive counselling on genetic matters, and referral to a specialist where appropriate.

### The Young Adult (15-39)

3.11 In 1968 and 1969 there was a yearly average of 23 cases per million population in this age group. The figure was 32 new cases per million in 1978 and 1979.

3.12 The five major site-type causes of visual loss in the young adulthood age group at the blindness census on 1.1.80 were cataract, optic atrophy, retinitis pigmentosa, congenital ocular malformations and macular degeneration (see Table 3). When the new enrolments in this age group for 1978 and 1979 are examined the five principal causes are optic pathway involvement (15%), retinitis pigmentosa (10%), retinopathy (9%), optic and retrobulbar neuritis (8%) and cataract (5%). Genetic counselling could play a preventive role in the occurrence of retinitis pigmentosa, hereditary optic atrophy and hereditary macular degeneration.

TABLE 3: SITE-TYPE CAUSE OF VISION LOSS IN THOSE AGED 15-39 REGISTERED WITH THE RNZFB (1980)

<u>Major Site-Type Cause</u>	<u>Number</u>	<u>Percentage</u>
Cataract	113	15.0
Optic atrophy	76	10.0
Retinitis pigmentosa	63	8.5
Congenital ocular malformations	61	8.0
Macular degeneration	39	5.0
Albinism	35	4.5
Nystagmus	34	4.5
Optic pathway involvement	32	4.0
Glaucoma	21	2.5
Retinopathy	21	2.5
Myopia	20	2.5
Other causes less frequent	253	33.0
TOTAL	768	100.0

3.13 When coded by etiology, prenatal influences accounted for 62% of the cases in the table, injuries and poisonings 7%, neoplasms 4%, infectious diseases 3%, and diabetes mellitus 2%. When the new registrations for 1978 and 1979 are coded by etiology it is found that 30% are due to prenatal influences, 16% to injuries and poisonings, 8% to diabetes mellitus, 5% to multiple sclerosis and 5% to neoplasms.



3.14 Injuries such as those caused in traffic accidents with flying windscreen glass and poisonings are a preventable cause of blindness. Diabetes mellitus is also a significant cause of vision loss in this age group. In the present state of medical knowledge photocoagulation with the Xenon Photocoagulator and argon laser is what the ophthalmologist has to offer. This treatment should be available at the various provincial centres throughout the country. Retrobulbar neuritis due to multiple sclerosis is appearing as a cause of visual loss.

#### Middle Aged (40-64 years)

3.15 In 1968 and 1969 there was a yearly average of 107 new cases per million population in this age group. By 1978 and 1979 the figure was 118 per million.

3.16 The five major site-type causes of visual loss in the middle-aged at the Blindness Census on 1.1.80 were retinopathy, retinitis pigmentosa, macular degeneration, optic atrophy and cataract (see Table 4). When the new enrolments for 1978 and 1979 in this age group are considered, the five principal causes are retinopathy 28%, macular degeneration 9%, optic pathway involvement 9%, retinitis pigmentosa 7% and glaucoma 6%. The causes in the new enrolments reflect current problems more accurately as mentioned previously.

3.17 Chronic simple glaucoma is appearing as a cause of blindness. Glaucoma surveys have been shown to swamp the follow-up facilities with too many suspects of whom only a small proportion go on to develop glaucoma. More emphasis could be placed on checking the relatives who are over 40 years of age of proven cases of glaucoma as the condition is commoner in near relatives than in the general population.

**TABLE 4: SITE-TYPE CAUSE OF VISION LOSS IN THOSE AGED 40-64  
REGISTERED WITH THE RNZFB (1980)**

<u>Major Site-type Cause</u>	<u>Number</u>	<u>Percentage</u>
Retinopathy	97	12.0
Retinitis pigmentosa	96	12.0
Macular degeneration	62	8.0
Optic atrophy	55	7.0
Cataract	52	6.5
Glaucoma	41	5.0
Optic pathway involvement	35	4.5
Optic and Retrobulbar neuritis	35	4.5
Uveitis	29	4.0
Myopia	27	3.5
Congenital ocular malformations	20	2.5
Detached retina	12	1.5
Nystagmus	10	1.5
Keratitis	10	1.5
Other causes less frequent	208	26.0
TOTAL	789	100.0



3.18 When analysed as regards etiology, 32% of cases are due to prenatal influences, 11.5% to diabetes mellitus, 7% to injuries and poisonings, 5.5% to vascular diseases, 3% to multiple sclerosis, 3% to infectious diseases and 2% to neoplasms. When the new registrations for the years 1978 and 1979 are coded by etiology, diabetes mellitus accounted for 30% of the cases. Prenatal influences caused 12%, senile degeneration 7%, vascular disease 6%, neoplasms 6%, multiple sclerosis 4%, injuries and poisonings 2% and infectious diseases 1%.

3.19 Diabetes mellitus was shown to be a problem in the 15 - 39 years age group but in the 40-64 age group it is the major cause of new cases of blindness and constitutes a serious public health problem. The longer a patient has diabetes mellitus the greater the risk of retinal vascular pathology. Vascular diseases are becoming a problem also, both cerebro-vascular diseases and local retinal problems such as central retinal artery occlusion and central retinal vein thrombosis. Medical control of hypertension would be helpful in preventing some of these cases.

### The elderly (65+)

3.20 In 1968 and 1969 there was a yearly average of 1503 new cases per million population in this age group. In 1978 and 1979 the figure was 2,266 per million. Whether this is due to a more complete registration or whether some of the increase is real is open to discussion. However it is clear that there is a major public health problem with the elderly blind and with an ageing population this will increase.

3.21 Macular degeneration has become the major factor in loss of vision in this age group at the blindness census on 1.1.80. The three other major site-type causes are glaucoma, cataract and retinopathy. When the new registrations for 1978 and 1979 in this age group are considered, macular degeneration accounted for 52%, cataract for 9%, glaucoma for 6.5% and retinopathy for 6.5%.

**TABLE 5: SITE-TYPE CAUSE OF VISION LOSS IN THOSE AGED 65+ REGISTERED WITH THE RNZFB (1980)\***

<u>Major site-type cause</u>	<u>Number</u>	<u>Percentage</u>
Macular degeneration	1312	47.5
Glaucoma	245	9.0
Cataract	214	7.5
Retinopathy	196	7.0
Optic pathway involvement	64	2.5
Myopia	52	2.0
Retinitis pigmentosa	50	2.0
Uveitis	38	1.5
Optic atrophy	36	1.5
Optic and retrobulbar neuritis	34	1.0
Keratitis	33	1.0
Detached retina	23	1.0
Other causes of less frequency	463	16.5
<b>TOTAL</b>	<b>2760</b>	<b>100</b>

\* Please note: In this age group actual figures may be slightly inflated because of incomplete notification of deaths at the time of census. However, this is offset by the fact that not all those eligible to register in this age group do so.

3.22 When analysed by etiology, 59.6% of cases are due to senile degeneration, 6% to prenatal influences, 4.5% to vascular diseases, 4.5% to diabetes mellitus, 1.5% to injuries and poisonings and 1.5% to infectious diseases. There are other etiological causes of less frequency as well. However, when new registrations are considered, a massive 68% were caused by senile degeneration. Vascular disease accounts for a further 6% and diabetes mellitus for 5%.

3.23 In the present state of medical knowledge it is doubtful whether much can be done to prevent the large numbers becoming blind due to senile macular degeneration. It probably should not necessarily be accepted as an inevitable ageing process as there could be underlying vascular changes. There is a limited place for fluorescein angiography and argon laser photocoagulation where leaking blood vessels are found. Vascular diseases and diabetes mellitus have been discussed previously. There is scope for basic research into atherosclerosis and chronic simple glaucoma. A major breakthrough in either of these fields would reduce the incidence of blindness.

Recommendation 9: To the Medical Research Council

That research into atherosclerosis and chronic simple glaucoma be encouraged.

## DISCUSSION

3.24 In gathering statistics on blindness it is important to have a census of the living blind at a point in time, so that prevalence rates can be obtained and effective decisions made as to areas of special need. Also new registrations in the latest year available need to be analysed to give annual incidence rates and so that current problems can be identified. Appropriate action can then be taken. It is important that the National Health Statistics Centre continue to provide current statistics from the information supplied to the centre by the Royal NZ Foundation for the Blind.

Recommendation 10: To the Department of Health.

That the National Health Statistics Centre be responsible for maintaining up to date figures based on RNZFB enrolments.

3.25 However, information is sadly lacking on the "moderate low vision" group with visual acuity ranging from 6/24 to just better than 6/60. Also there is no hard statistical information on those unable to read newsprint with reading glasses or those with other serious loss of visual function impairing them in the domestic or occupational environment. There is sound statistical information to show that 0.15% of the population are registered blind with the Royal New Zealand Foundation for the Blind and meet their criteria for enrolment. Although a figure of 1% of the population is generally accepted in New Zealand, to extrapolate the results of a pilot random survey of the visually impaired in the U.S.A., which found that 1% of the population was in the low vision and

blindness category, and then to say that a further 0.85% of the New Zealand population is in the moderate low vision group needing assistance is very much open to question. This would suggest that apart from the 4,723 people enrolled with the Royal New Zealand Foundation for the Blind at 1.1.80 there were at least another 25,000 with low vision problems in the community.

3.26 The Advisory Council has given considerable thought to devising a way to obtain accurate figures on the moderate low vision group but the task would be mammoth. A sufficiently large random sample of the community would need to be examined and it is doubtful whether this could be justified on the grounds of time and expense. A recent survey of physical disability found that 0.87% of respondents cited eye conditions as their major disability. Also, American figures give a figure of 0.22% legally blind and 0.6% severely visually impaired. This gives a total of 0.82% which is very close to the New Zealand figure of 0.87%. Whatever the exact figure is, there is no doubt however that there is a large untreated pool of low vision problems in the community. These are untreated in the sense that low vision aids have not been used when standard glasses have proved no longer effective. There could also well be a number of untreated eye conditions for which medical treatment could be offered.

## CHAPTER 4: EYE INJURIES

4.1 Statistics available from the Accident Compensation Corporation on the number of claims for eye injuries for the year ending 31 December 1985 revealed that the total number of claims was 1386. More detailed information is given in Table 6.

**TABLE 6: CLAIMS FOR EYE INJURIES (1985)**

Type of Environment	Number of Claims	Percentage
Industrial	553	39.9
Domestic	335	24.2
Sport and Recreation	160	11.5
Road	115	8.3
Travel to and from Work	21	1.5
Other	202	14.6
TOTAL	1386	100%

### INDUSTRIAL ACCIDENTS

4.2 Accident Compensation Corporation claims for serious eye injuries during 1985 showed that 40% were sustained in an industrial setting. In his study of patients admitted to Auckland Hospital with an eye injury during the 1975 year, Chapman Smith (1976) found that 27% (6) were work related; this figure is confirmed by Hadden (1979). Of the 60 cases analysed by Chapman-Smith 20% (12) were due to chemical injury or burn, 35% (21) were contusion injuries and 45% (27) were wounds involving lacerations.

4.3 No industrial group is immune to eye hazards, but those at greatest risk are engineers, iron and steel dressers, steelworkers, turners and blacksmiths. These workers are specially prone to severe eye injury and the single most dangerous activity for eyes is hammering steel (Hadden 1979). Many of these accidents are preventable and special care must be taken over the safety aspects of the workplace. If there is a serious accident, an employer is required to notify the District Office of the Department of Labour within 48 hours. The Inspector of Factories then investigates whether or not there has been a breach of regulations. Spot inspections of various workplaces should be made by the Inspectors of Factories in an attempt to prevent accidents. Notifications are also made by the hospital to the Medical Officer of Health for the district and Health Department district offices send out a reminder notice to Accident and Emergency Departments and to eye specialists. However, no notification form is available.



Recommendation 11: To the Department of Health.

That a system of notification of eye accidents be developed with a suitable form.

DOMESTIC ACCIDENTS

4.4 Accident Compensation Corporation statistics for claims lodged in the 1985 year show that 24.2% were for serious eye injuries received in a domestic setting. Chapman-Smith (1979) established that of the section of the population covered by his study, 27% of eye-injuries admitted to hospital occurred in a work environment, but of the 60% occurring during "leisure time", many actually occurred in the home. Comments regarding eye injuries due to corrosive substances and projectiles apply equally to the domestic as to the industrial situation. 4.5% of hospital admissions for eye injury were caused by a projectile such as a bottle-top or cork, and a further 12% were due to an assault. As all except one of the hospital admissions for assault involved the intake of alcohol, the involvement of alcohol in eye injuries is worth noting.

4.5 Many sources of eye injury are controllable and attention is drawn to the need for constant public education to the risks of eye damage. Preventing loss of vision through disease, injury and inheritance must be a high priority.

Recommendation 12: To the Department of Labour and the Accident Compensation Corporation.

That prevention of eye injury be given greater emphasis.

SPORTS ACCIDENTS

4.6 Of the serious injuries resulting in A.C.C. claims in 1985, 11.5% were received during sport or recreational activities. In a study of patients admitted to Auckland hospital with eye injuries during 1975, Chapman-Smith (1979) found that 14% were sustained during sport. A growing increase in the amount of leisure time available warrants a closer analysis of the accidents involved. Of the 30 sporting injuries detailed in the Chapman-Smith study, 27 were due to a blunt blow to the eye and 21 of these occurred during squash, badminton or tennis. Ten squash players were admitted to hospital for up to 8 days each as the result of hyphaema and in two, the visual acuity in the injured eye was reduced to 6/18.

In a study carried out in the Hawkes Bay area, Sabiston (1976) documented 25 eye injuries caused by squash during the last 5 years. 50% of those injured lost some degree of vision, and two had to have an eye completely removed. If these figures are extrapolated to the New Zealand population there could be 100 squash-related eye injuries annually, with four people losing an eye, and 50 people losing some useful vision.

4.7 Probably the most effective protection is the use of safety or "sports" spectacles, fitted with plastic toughened glass or plastic lenses. For those who ordinarily wear corrective lenses, corrective lenses in plastic or toughened glass are available. It is to be hoped that eye protection may become as acceptable on the squash court as a mouthguard has become on the rugby field.

Recommendation 13: To the New Zealand Squash Association.

That protective eye wear should be worn by all squash players.

## ROAD ACCIDENTS

4.8 Of the eye injuries which resulted in claims under Accident Compensation in 1985, 8.3% were due to road accidents. Surveys in Canada, Australia and New Zealand (Haas et al 1976; Briner 76; Sturman 81) suggest that while the wearing of seat belts will cut down the number of eye injuries, laminated glass is more important in reducing their severity. Of 83 Auckland cases reported by Haas and Chapman-Smith (1976) 28 lost the sight of one eye and 3 lost the sight of both eyes. The study also noted that the mean age of those injured was 26 years and commented on the severity of interruption this would have early in a person's working life. The Advisory Council endorses action which from July 1984 made laminated windscreens mandatory in new cars.

Recommendation 14: To the New Zealand Motor Vehicle Assemblers Association.

That mandatory laminated windscreen glass in all new vehicles be monitored.

## PREVENTIVE MEASURES

4.9 Protection against and prevention of injuries due to corrosive substances include:

- the development of safe packaging for transit of goods;
- skilled and safe loading for bulk carriage of chemicals;
- wearing protective clothing and gas-tight, contour fitting goggles or splash goggles;
- special provisions for emergency washing such as deluge showers;
- conveniently located basins with up-angled nozzles to gush water in volume onto the affected eye. Special attention needs to be given to placement and water temperature, since the first 15 seconds after a chemical accident are critical.

A recent New Zealand survey of first aid supplies found that they were not kept up to date. While most places had a first-aid box, not many had appropriate contents.



Recommendation 15: To the Department of Labour and the Accident Compensation Corporation.

That first aid equipment be reviewed yearly to ensure that it is in suitable condition.

4.10 Surveys show that the risks for an eye penetrated by a metal fragment are:

- one in 3 continued good vision;
- one in 3 some visual impairment;
- one in 3 eventual blindness.

Protection against and prevention of contusion injuries where the most common causes are objects thrown up (such as nails from hammer blows, wood chips from power saws or axes, and hammers on steel) include:

- safety goggles, face shields and safety spectacles with side shields;
- clip-on and flip-down safety lenses;
- cutting and welding goggles, shields, hoods;
- the use of deflection screens, extraction portable hoods fitted to benches, exhaust systems applied to tools such as grinders, and the use of a vacuum cleaner instead of a broom where dust and flying fragments are a problem.

4.11 Protection against and prevention of wounds includes:

- design modifications to motor mowers;
- the use of face shields, safety goggles and safety spectacles.

4.12 Occupational eye injuries are usually preventable by:

1. Due care and foresight and use of safety equipment.
2. Fast, accurate handling of eye injuries through first aid knowledge, provision of industrial nurses and professional referrals.

With these facts in mind, a number of films highlighting the need for eye protection have been made jointly by the Accident Compensation Corporation and the Department of Labour; these are available on loan from the latter.

Recommendation 16: To the Accident Compensation Corporation, the Department of Health and the Retailers Association.

That a safety campaign be developed, including a TV spot and a poster on the availability and types of eye protection safety devices.

## PART II - SERVICES

### CHAPTER 5: REVIEW OF SERVICES: WELFARE

#### SOCIAL WELFARE BENEFITS AND SERVICES FOR CHILDREN

5.1 These benefits and services are only available for children. However children are also entitled to other services which are available regardless of age. There are listed in the following section on Adults and Children.

Family Benefit - Family Benefit is provided for all children, including handicapped children at \$6.00 a week. Payment usually ceases at the age of 16 but if children continue their education or are unable to earn a living because of a disability, the benefit may be continued until the end of the year in which they reach the age of 18. However, where an individual is also receiving an Invalid's Benefit the amount is reduced by the amount of the Family Benefit.

Handicapped Child Allowance - Families caring for a seriously disabled child may receive an allowance at a flat rate of \$25.00 a week in addition to the normal family benefit. The child must be suffering from a serious disability which requires constant care and attention for at least 12 months. The seriousness of the disability must be certified by the Medical Officer of Health.

Residential Care Subsidy - A capitation subsidy of \$119.72 per week is payable to approved voluntary organisations providing residential care for handicapped children. This is not paid in addition to the Department of Education boarding bursary.

#### SOCIAL WELFARE BENEFITS AND SERVICES FOR CHILDREN AND ADULTS

5.2 Alternative Care - The Department of Social Welfare will meet reasonable costs of alternative care of a seriously disabled child for four weeks in every year, for the purpose of providing relief to carers from the constant emotional and physical strain involved in the full time care and attention of a seriously disabled person. The cost of alternative care for a disabled person other than a child may be met if it is justified by the circumstances. The Department always tries to meet the applicants' wishes about the type of alternative care provided.

Loans for Home Alterations - Suspensory loans are available under the Disabled Persons' Community Welfare Act for alterations to homes. The loan is not income tested.

Disability Allowance - This allowance at a rate of up to \$34.00 per week may be paid to disabled persons in receipt of an income-tested benefit or pension, or to any disabled non-beneficiary who could qualify on income grounds for such a benefit or pension. It may also be paid in respect of a disabled wife or child of a qualified person. The rate of the allowance is determined by the nature and extent of the disability, and any additional expenses arising from it. The type of additional costs arising from disablement which could be covered include transport costs, clothing, boarding, medicines not on the free list, special diets, laundry expenses etc. The expense must have already been incurred and receipts should be produced.

**Travelling Expenses** - The cost of the initial trip to an assessment centre and final journey home will be met, as will monthly weekend fares home for married persons.

**Appliances** - When aids or appliances are not available free from hospital boards, a grant may be made under Section 15 of the Disabled Persons Community Welfare Act, provided the aid is for the provision of mobility, a communication aid to assist education; or an aid to enable a disabled person to undertake training or employment, or to remain in or return to private accommodation.

## SOCIAL WELFARE BENEFITS AND SERVICES FOR ADULTS

5.3 **Invalid's Benefit** - Invalid's Benefit may be granted, under the Social Security Act, to persons 15 years or over who are totally blind, or permanently and severely restricted in their capacity for work by accident, illness or congenital defect. It is subject to a residential qualification. For the purposes of this benefit, total blindness is defined as a degree of permanent and irremediable visual defect in which the vision in each eye is not greater than 3/60 or, in cases where the vision is greater than 3/60, that vision does not exceed 5 degrees either side of the fixation point.

The personal earnings of a totally blind person are completely disregarded when assessing the amount of benefit payable, although non-earned income and spouse's income is taken into account. If the total income of the beneficiary (including benefit) is within certain limits, the beneficiary can also receive an additional allowance equal to 25% of gross earnings for the year. This is known administratively as a "blind subsidy".

**Sickness Benefit** - Sickness benefit, provided under the Social Security Act, is designed to ensure that those who through sickness or injury are temporarily unable to work, receive an income while they are off work. Applicants must be at least 15 years of age. The benefit usually begins from the eighth day of the illness or from the day after the wages or salary cease, whichever is later. This 7 day waiting period may be waived in certain circumstances.

**Emergency Benefits** - Even though a person may not qualify for one of the benefits that have been mentioned, the Social Security Commission may grant an emergency benefit (plus an extra benefit if there are dependent children) if there is financial hardship. The rate of an emergency benefit is at the discretion of the Commission and is fixed according to the circumstances of each case. Special conditions may be imposed.

**Rehabilitation Allowance** - A rehabilitation allowance of \$19.00 a week is paid to encourage disabled persons to undertake retraining. There is no income test nor is receipt of a benefit necessary. The allowance, which can be paid in addition to a social security benefit, is available during assessment, work experience, education or training for employment in an approved organisation.

**Accommodation Benefit** - An accommodation benefit may be paid to a person on a Social Security benefit who has limited income and assets and has difficulty in meeting accommodation costs.



Home Help Scheme - People with limited means, who because of age or ill health need help in the home, can receive some financial assistance towards the cost of employing such help. Any assistance is subject to an income test and is in general limited to the ruling rate paid to domestic staff employed by the Hospital Boards.

Assistance with care of grounds and minor household repairs - Assistance with costs incurred in these areas may be met from the disability allowance.

Expenses and other costs - Under the Disabled Persons Community Welfare Act, financial assistance may be granted for work assessment, work experience, training or education where the person is required to reside away from home. This will mainly apply to a person attending the Rehabilitation League. Financial assistance is also provided under S 26(3)(a) of the DPCW Act 1975 to help with education costs associated with enhancing employment prospects.

Training Incentive Allowance - A training incentive allowance is available for people receiving an Invalid's Benefit to enable them to undertake specific training courses which may enhance their employment prospects. This is payable in addition to rehabilitation and disability allowances and is not means tested.

Suspensory Loans for Motor Cars - These may be granted to seriously disabled persons to assist in the purchase of a motor vehicle, where such a vehicle is necessary to enable that person to obtain or retain employment or undergo training for suitable work, or to carry out voluntary community work with a recognised voluntary welfare organisation.

The maximum loan is \$10,510 and is normally written off after five years unless the disabled person sells the vehicle or no longer meets the conditions of the loan. In addition to the suspensory loan, disabled persons may be assisted by a sum up to a maximum of \$697 towards the cost of fitting any special controls necessary.

If a person who is blind is able to qualify for this Suspensory Loan under all the normal criteria, blindness itself does not prevent granting of a loan. Personal circumstances which enabled another person to normally and constantly accompany the blind person as a driver have in the past allowed the loan to be granted.

## HEALTH BENEFITS AND SERVICES

5.4 Free medical and hospital treatment - Free medical treatment is provided in public hospitals for blind and low vision persons and most pharmaceutical supplies are supplied free on a doctor's prescription (although there is a \$1 prescription charge for adults).

General medical services benefit - A general medical services benefit entitles a patient who consults a medical practitioner to a part refund of the fee. A higher refund is provided for persons on sickness and invalids benefits.

Artificial Aids and Appliances - Under the provisions of the Social Security Hospital Benefit Regulations a number of aids are provided free or at reduced cost. These included cosmetic prostheses such as artificial eyes.

Transport for Hospital Treatment -

- (a) Within the same hospital district - it is normally the patient's responsibility to arrange transport and meet the cost of attending a public hospital for out-patient treatment. If the medical condition makes special transport essential the matter is arranged with the hospital board.
- (b) To another hospital district - where the transport of an out-patient to another hospital district is required on medical grounds, the hospital board sending the patient may meet the cost of transport.
- (c) Section 13 of the DPCW Act provides for payment of fares, meals and lodging associated with medical treatment approved by a Hospital Board specialist, or with Department of Social Welfare interviews and assessments.

## CHAPTER 6: REVIEW OF SERVICES: EDUCATION

6.1 There is a range of special educational services available to children who are blind or who have low vision. A child is assessed prior to placement. In arriving at decisions concerning admissions to regular schools, Homai College or visual resource centres, the particular needs of the child, the wishes of the parents and the capacity of the school concerned to meet the needs are taken into account.

### HOMAI COLLEGE

6.2 Homai College is a residential special school for visually impaired children situated at Manurewa, near Auckland. It is administered by the Royal New Zealand Foundation for the Blind and financed by the Department of Education. It has specialist units for pre-school training, deaf-blind assessment and education, as well as its primary, intermediate and secondary day school and accommodation facilities.

The Pre-School Unit aims to prepare the child for a more formal school curriculum through individual programmes to develop normal social or personal skills and independence. All factors of the child's development are assessed and parents are helped to determine the appropriate future educational placement for their child.

Primary and Intermediate education is divided into two groups: Children who have some sight and use print with magnification and children who are totally blind and use braille. Many partially sighted children come to Homai College for a temporary period of assessment, guidance and practical help. It is the aim of the College to rehabilitate these children and return them to their neighbourhood school. For the more severely handicapped child in long-term residence, a broad-based education, with an emphasis on independence, confidence and self-reliance through the development of educational, social, recreational and vocational skills is given.

Secondary School. Some secondary school children live at Homai College while attending the nearby high schools. In most cases these children are integrated with assistance from itinerant teachers. A resource room at Manurewa with School provides individual programmes for children not able to undertake a fulltime secondary school course. Many students participate in the work - experience programme which assists them to gain self confidence in a real life work situation for one full day each week.

Other children of secondary school age are enrolled with the R.N.Z.F.B. while living at home and attending their neighbourhood high schools. Homai-based itinerant teachers supervise their progress, advise on the latest visual aids and arrange braille transcription or special equipment as required. Special provisions are made for blind or partially sighted students to undertake School Certificate, University Bursary and other examinations.



These provisions are:

- examination papers prepared in Braille or large print.
- use of a Braille typewriter.
- assistance of an amanuensis.
- 30 minutes extra time per paper.
- a separate room is usually also provided.

The Deaf-Blind assessment and teaching unit was established at Homai in 1968. Children are initially referred for a 1 week assessment accompanied by parents. Decisions regarding the child's education are then made by the parents in conjunction with the R.N.Z.F.B., School for the Deaf and the Department of Education. Students receive individual instruction by specialist teachers who encourage the fullest possible use of residual sight and hearing as well as making use of specially designed aids and apparatus.

For Multi-Handicapped adolescents an experience course is available. This provides highly individualised programmes in mobility, personal hygiene, home and job skills, and basic reading and arithmetic.

Social and Vocational Training Programmes. It is important for young adolescents with a visual handicap or blindness to develop personal and social skills and move towards independence. Programmes to develop these skills should be available as part of the normal school curriculum. Experience shows that frequently the reason that young people with a disability fail in open employment is a lack of social skills rather than any deficit in vocational skills. Homai College has recognised this important need and during 1981 an extensive independent living programme for 16 to 18 year olds was introduced. Its objectives are to prepare these young people for the school-to-employment transition and develop in them a realistic outlook on life, independent living skills and a wide range of cultural and recreational interests (see 11.10).

### Residential Staff

6.3 In a residential establishment such as Homai College, the hostel staff fulfil an important function as surrogate parents to children boarding on a long-term basis. Development of the policy of integration has led to the children in full-time residence being those from more isolated areas, or those who are more severely handicapped. This places an extra burden on residential staff. Care must be exercised in the selection and training of staff who supervise the hostels, and in providing higher status and career structure to maintain a stable work-force.

Since residential staff are acting in loco parentis, they are often called upon to deal informally with questions on human development and some mature staff could in the future be selected to handle this instruction on a more formal basis. An in-service training programme to provide the present hostel staff with skills and knowledge in communication, child development, problems posed by visual handicap, recreation and social activities is considered highly desirable.

## VISUAL RESOURCE CENTRES

6.4 Visual resource centres operating under Education Board management are based at city schools in Christchurch, Wellington and Dunedin. Specialised teaching programmes for the visually handicapped students currently on their roll is provided at these centres. The students also take part in normal classroom and outdoor activities. In addition the teachers provide an itinerant service throughout the board area for visually handicapped students and their teachers based in other primary and secondary schools. The RNZ Foundation for the Blind runs a resource centre at Homai College which serves the Auckland metropolitan area, and operates on a similar basis to those run by the Education Boards. Many children with visual handicaps require only a little extra help, while others have specific needs which require considerable specialist help. The need to maintain and carefully monitor developed abilities and coping skills is very important. The need for sufficient resource centre teachers to provide a comprehensive itinerant service is essential.

6.5 The present policy of the Department of Education endorses the world-wide trend of integrating all children with a special need into the main stream education system whenever possible. Although highly desirable, this system does require careful consideration of staffing resources. The policy involves a very close liaison between the visual resource centre teacher and the teacher in the regular classroom, who needs to be instructed and assisted in coping with the practical day-to-day realities. Initially an intense input from the itinerant teacher is necessary, to develop such features as adequate general lighting systems, adjustable individual lighting, eye-level display materials, appropriate use of colours, correctly sloped writing surfaces and use of audio visual or other technological aids. Later the level of liaison is likely to taper off.

6.6 A relocation allowance is payable by the Department of Education towards the costs incurred by parents who move their households to enable a seriously handicapped child to receive special education not available within reasonable daily travel from his present home. Up to two thirds of the cost of household removals and travelling expenses, to a maximum of \$1,300, can be paid.

6.7 In the past there has been no specialist training course for teachers of visually handicapped children, but observation and study programmes, including study of Braille, have been made available at Homai College not only for its own teaching staff but also for teachers from the visual resource centres. Some teachers of visually handicapped students have also taken advantage of the Correspondence Course run by the Australian and N.Z. Association of Educators of the Visually Handicapped (NZAEVH).

## TEACHER TRAINING

6.8 There are about 600 children in educational institutions receiving special assistance from about 35 teachers. In the past teachers have had no specific training. However, in February 1984 a small group of teachers began a full-time year of training at Auckland Teachers College, designed to equip them to meet the needs of visually handicapped children.

6.9 Teachers who have a visually handicapped student in a regular classroom face a very demanding extra workload if the child is to receive the extra individual attention required in order to benefit from integration. All teachers with visually handicapped students in their class have access to Homai College, and in Districts where there are resource centres they have access to the resource centre teachers. The National Advisor on visually handicapped children who works on an itinerant basis is also available for consultation. The teacher must be aware of the student's disability and of problems that might accrue. In particular the teacher should be alert to a student's failure to progress at a steady rate and be ready to institute remedial tuition without delay.

Recommendation 17: To the Department of Education.

That sufficient specialist staff be appointed to the resource centres for visually handicapped children to enable them to provide indepth assistance to visually handicapped children in ordinary schools.

Recommendation 18: To the Department of Education.

That the visual resource centre at Homai College which services the Auckland metropolitan district be sufficiently staffed to cater for the needs of visually handicapped students who are attending neighbourhood schools in the greater Auckland area.

Recommendation 19: To the Department of Education.

That a survey of the need for visual resource centres be undertaken in the following areas.

Waikato/Bay of Plenty  
Hawkes Bay  
Manawatu/Wanganui/Taranaki.

Recommendation 20: To the Department of Education.

That all visually handicapped children attending ordinary schools have a form lodged with their school asking that where necessary remedial tuition be instituted without delay.

Recommendation 21: To the Department of Education.

That Teachers College Courses include training in the special needs of students with physical visual and other disabilities as a compulsory part of the general courses.

Recommendation 22: To the Department of Education.

That in-service courses on working with the visually handicapped child be provided for teachers who have these children in a regular class.

Recommendation 23: To the Department of Education.

That a reduction in roll numbers be granted for teachers who have a visually handicapped child in their regular classroom.

Recommendation 24: To the Department of Education.

That all teachers (student, relieving, etc) when first meeting a class be required to check with the Principal on disabilities recorded for the children in that class.

#### MAINTENANCE OF STANDARDS

6.10 A National Visual Education Committee consisting of the Department of Education Director of Special Education, the Director of RNZFB, the Principal of Homai College, and the Inspectors supervising special education in areas where visual resource centres are located, meet each year to discuss areas of concern in relation to visually handicapped children.

It is important that close liaison is maintained between Departmental and RNZFB personnel in order that standards of competence in the specialised skills of braille reading, orientation and mobility and activities of daily living are established and maintained.

Recommendation 25: To the Royal NZ Foundation for the Blind.

That the Royal New Zealand Foundation for the Blind, in consultation with the Department of Education, take responsibility for establishing standards of proficiency in specialist areas such as communication, orientation and mobility, and activities of daily living.





## CHAPTER 7: REVIEW OF SERVICES: HEALTH

### THE YOUNG CHILD

7.1 A young child is unlikely to notice reduced visual acuity. Parents also are frequently unaware of a child's visual defect, unless it is bilateral or severe. Although a pre-school child's vision is tested several times, there are always some children who are missed and others for whom the level of disability remains unclear. Several health professions are involved:

- (a) Plunket Nurses. Registered Plunket Nurses employed by the Plunket Society numbered 188 full-time and 238 part-time (or 327.1 full-time equivalents) as at 31 March 1985. Approximately 54,250 pre-school children, (equal to 50% of 3 and 4 year olds), attended a Plunket Clinic in 1979 and it is likely that these children were screened for visual acuity. However screening, particularly at age 3, requires skill and time to obtain a reliable result and Plunket nurses do not report separately on vision screening as a matter of routine. (i.e. it is done as part of a screening "package"). Of those children tested, those who fail the test are referred to a General Practitioner or Specialist.
- (b) Public Health Nurses. In March 1985 there were 474 (490 FTE) Public Health Nurses employed by the Department of Health, who test vision in primary schools, pre-schools and Health Clinics. About 9000 children aged between 18 months and 5 years were tested by them in 1979. This represents approximately 5% of that age population, in addition to those seen by Plunket Nurses. Public Health Nurses do not report separately on vision screening.
- (c) Vision-hearing testers. Newly appointed vision-hearing testers attend a two day orientation course as soon as possible after appointment. However, many begin work without training. Later in the year they should attend a formal training course which lasts four days and is held at the National Acoustics Centre at Auckland. In addition, the testers are eligible to attend a four day refresher course once every three years. They are primary screeners who pick up defects for further investigation. They do not make diagnoses and have no formal career structure. There is a high staff-turnover and the work carried out is very repetitive.

Although their major role is in the schools, vision-hearing testers who are employed by the Department of Health have a part to play in screening pre-school children. In 1986 there were 60 vision-hearing testers who tested children enrolled in preschools. In 1979 38% of 3 year olds and 63% of 4 year olds were enrolled of whom 28% were tested. In some districts no testing was undertaken. This figure is equivalent to 15% of the pre-school age population. Plunket nurses who test vision as part of a screening package covered 50% of this age group.

7.2 The role of the vision-hearing tester is a crucial one in carrying out the initial screening of many preschool children, and most of the school age population. The low status, high turnover, and comparatively low salary are of concern. The Advisory Council considers an urgent review of their role is necessary.

Recommendation 26: To the Department of Health.

That an annual course for the training of vision - hearing testers be held.

Recommendation 27: That a suitable training programme be developed to ensure that untrained screeners are not working.

Recommendation 28: To the Department of Health.

That urgent consideration be given to the problems of the vision - hearing tester caused by high turnover, low salary and inadequate staff numbers and that steps be taken to overcome these problems.

7.3 In 1979 3.9% of the children tested in preschool centres failed the vision screening test. (Department of Health 1980), and a Dunedin survey by Ellingham et al (1976) found 5.9% of 4 year olds screened had either squint or myopia.

7.4 Amblyopia or "lazy eye" is a common defect in preschool children. It is commonly due to refractive error with or without strabismus (squint). This results in a child having unequal vision in each eye. It is important that while binocular vision is developing (up to age 7) the use of one eye is not constantly suppressed. Early treatment prevents the loss in the "lazy-eye" from becoming permanent.

7.5 As amblyopia, strabismus and refractive errors are defects of which the child is usually unaware and which can be treated effectively, it is important that vision defects be identified as early as possible.

Recommendation 29: To the Department of Health.

That every child be screened for eye defects at 6 weeks, 6 months, 9 months and vision screened at 3 years and 5 years of age, as part of developmental health care during child health checks.

Recommendation 30: To the Plunket Society and the Department of Health.

That the report forms on vision testing used by the Department and the Society be standardised.

Recommendation 31: To the Department of Health.

That the Department of Health annually publish for each district the statistics relating to regular vision screening of children.

Recommendation 32: To the Department of Health.

That sufficient numbers of health personnel be made available to ensure more adequate screening coverage.

Recommendation 33: To the Department of Health.

That the Department of Health undertake a multicultural publicity campaign through the media, particularly television, aimed at educating parents in the desirability of screening for visual acuity before the child's 4th birthday, in order to identify and effectively reverse the effects of amblyopia and providing information on how to have their child screened.

## THE SCHOOL CHILD

7.6 Routine screening for visual acuity is carried out by the vision-hearing tester following school entry, at age 5 or 6. Distance visual acuity as well as a test for squint is carried out, with the overall aim of identifying treatable causes of poor vision. 95% of all appropriate junior class children are screened each year. 6.7% of those children tested in 1979 had a visual acuity of 6/12 or worse in one or both eyes, or a visual acuity of 6/9 in one or both eyes several years running. (Laugeson 1980).

Recommendation 34: To the Department of Health.

That adequate follow-up procedures to screening are developed which ensure diagnosis and assistance where needed.

7.7 All children recommended for special classes should be tested before entry to the class since they may have a medical condition which could affect visual acuity. Special class teachers should be alerted to watch for signs which may indicate a deterioration in visual acuity and refer appropriate cases. An undiagnosed uncorrected visual defect in a child who is deaf, cerebral palsied or intellectually handicapped will compound the child's degree of disability.

Recommendation 35: To the Department of Education and Health.

That regular eye testing of visual acuity be conducted on children in special or assessment classes, and on children enrolled in all special schools.

Recommendation 36: To the Departments of Health, Education and Social Welfare

That assessments of children in institutions include assessment of visual status.

## THE FORM I CHILD

7.9 Form I school children are routinely tested and Form I boys are tested for colour vision. It is important that parents or teachers should not get a false sense of security from early tests passed as myopia and other visual defects may develop later. They must remain receptive to signs and symptoms of developing visual problems. In 1979, 96.5% of children were screened by vision-hearing testers at the form I level. Of these, 5.4% were found to have a visual defect and referred to an ophthalmologist or hospital eye department (Laugeson 1980). Children requiring follow-up tests, or referred from other classes, are also included in the testing programme at all levels.

## THE SECONDARY SCHOOL CHILD

7.10 Routine vision screening of secondary school pupils by public health nurses is being progressively introduced. Studies show that normal vision at age 7 or 11 years will not necessarily stay normal through the school years (Tibbenham et al 1978).

Studies carried out by the Dunedin District Health Office in 1976 and 1979 and by the Wellington District Health Office in 1980, show that a large percentage of new visual defects are detected at Form III and Form IV level. In the Dunedin study 902 Form III and Form IV pupils were tested. 11.1% newly detected cases of abnormal vision were discovered. In addition 10.3% were already wearing glasses for known abnormal vision.

Vision screening for adolescent myopia at F III or F IV level is highly desirable. Preferably the test should take place at fourth form level, before the commencement of the school certificate year.

Recommendation 37: To the Departments of Education and Health.

That vision screening of all children at Form IV level be given priority.

## THE ADULT

7.11 There are no routine provisions for screening of visual acuity in adults, apart from entry requirements for some careers such as the police force and civil aviation pilot licences, and the Ministry of Transport test of vision for those applying for a driver's licence. In addition, those with tunnel vision, or visual field defects may remain undetected. Most adults therefore would have no check on visual acuity until they experience a marked deterioration in their ability to cope with the visual requirements of daily living. When drivers turn 71, they are required to provide the Ministry of Transport with a medical certificate and an eye-sight certificate if they wish to retain their driver's licence. If their health and eye-sight status is good, the licence is validated for a further five years. From the age of 76, and thereafter on even years (78,80 ...) drivers must provide the Minister of Transport with a medical and eye-sight certificate. Eye conditions causing reduction of vision may occur between first obtaining a licence and the age of 71.



7.12 When considering present Ministry of Transport tests for fitness to drive it is of particular concern that adults who have peripheral field defects as a result of eye disease, trauma, strokes and other causes, may still have normal visual acuity because their central visual field is spared. Certain peripheral field defects could make driving hazardous as they cause large blind areas in the peripheral vision which may be completely undetected in a test of visual acuity only. An existing licensee may be required by the Secretary of Transport to undergo a medical examination. The Secretary may then revoke or suspend the driver's licence.

Peripheral field defects may present ethical dilemmas on the part of medical practitioners who must respect a patient's confidence and can only advise such patients against driving. The Ministry of Transport in association with the medical profession needs to clarify this matter.

Recommendation 38: To the Ministry of Transport.

That the Ministry of Transport establishes a Committee to look at the issues surrounding drivers' visual fitness to drive and the ethical problems involved in reporting on visual fitness.

7.13 The Advisory Council considers that there should be a greater attempt to screen adults particularly in relation to the visual aspects of fitness to drive. Self-referral on the individual's birthday at 5 yearly intervals from 20 to 70 years was suggested, but considered to be too unwieldy to implement. However, a legal requirement that individuals notify the licensing authority of any marked deterioration in vision would help monitor individuals' medical fitness to drive.

Recommendation 39: To the Ministry of Transport

That all motor-vehicle licence holders be legally required to notify the licensing authority of any marked deterioration in vision or co-ordination.

The Ministry of Transport publishes guidelines for doctors in its booklet "Medical Aspects of Fitness to Drive" which includes the advice which should be given to patients with low vision problems.





## CHAPTER 8: REVIEW OF SERVICES: ACCIDENT COMPENSATION CORPORATION

8.1 When visual impairment occurs because of an accident, the Accident Compensation Corporation appoints a Rehabilitation Officer to assist the individual. There are about 48 Rehabilitation Officers, involved primarily with co-ordination and assessment.

8.2 Financial assistance is available to assist with rehabilitation and lump-sum compensation may be available. If the person has been working but is unable to return to work, earnings-related compensation may be paid. Assistance may also be provided for home modifications, transport, training costs, special equipment, special treatment and other items associated with rehabilitation.

8.3 The ACC Act identifies the active and co-ordinating role of the Accident Compensation Corporation in the promotion of safety in all areas where accidents can occur. This includes creating an interest in safety, sponsoring safety campaigns and seeking ways to reduce accidents.

8.4 There has been a recent review by an Officials Committee of the Accident Compensation Scheme. The Committee's report is being considered by Government and may result in a change in the present provisions.



## CHAPTER 9: ROYAL NEW ZEALAND FOUNDATION FOR THE BLIND: MEMBERSHIP SERVICES

9.1 There are now in excess of 7,000 persons registered with the Royal Foundation for the Blind. Criteria for full registration as a member of the Foundation are:-

- (a) Visual acuity not exceeding 6/60 in the better eye with correcting lenses; or
- (b) Serious limitation in the field of vision to 20 degrees or less in the widest diameter.

In circumstances where the prognosis is poor or uncertain the RNZFB analyses all factors and on occasions offers restricted enrolment, commonly known as for "Library Purposes Only" or "Educational Purposes Only". Such classifications are reviewed on a regular basis and/or by application.

The services offered by the RNZFB are varied to suit the different needs of each of its members. These services aim at maximising the independence of each of its members so that they can be successfully integrated into the community. (The RNZFB's involvement in educational services has been described in section 6.)

### REHABILITATION AND PLACEMENT

9.2 Mobility and daily living skills are taught through branches in Auckland, Wellington, Christchurch and Dunedin as well as through the Adult Rehabilitation Programme located in Auckland. The residential Adult Rehabilitation Programme offers training in mobility and daily living skills, plus an improved capacity to develop independent living abilities in flat-type facilities. Homai College is continuing to develop special skills in Braille, orientation, mobility and daily living activities, and a non-residential programme is being established in other centres.

A Work Skills Assessment and Training Programme has been established. Trainees are given individual assessment and training programmes are designed to fit their individual needs. The main goals of the programme are :

- (i) to determine what work skills the individual possesses upon entering the programme and
- (ii) teaching of the skills necessary to enable the trainee to compete better in the labour market.

The training programme for a blind person provides assistance towards gaining physical and psychological adjustment. Seminars and counselling in interview technique, dress and work habits are given and this is followed by assistance in finding suitable employment.

## LIBRARY AND TRANSCRIPTION SERVICE

9.3 The RNZ Foundation for the Blind produces and circulates a large supply of talking book machines and cassettes. Circulation of these cassettes is about 270,000 or 42 per person per year. More than 50% of blind members use this service.

The Foundation also provides a Braille transcription service to members. Reading materials needed by blind students at all levels, blind businessmen and professional people are transcribed into braille for ready access and availability.

## GUIDE DOGS

9.4 The Foundation provides a facility for the training of Guide Dogs. The visually handicapped person is included in this training programme. The New Zealand Guide Dog Breeding Scheme (Inc), responsible for breeding and puppy-walking programmes, is based in Wellington, but the actual training of the guide dogs and blind trainees is centred on Homai College.

## RECREATION

9.5 Traditional handcraft and hobby programmes still attract the greatest number of participants but other pastimes such as skiing, hockey, bowls, cricket, fishing and marathon running have been given full Foundation support. Similarly the Foundation has been given support by local social clubs who provide many social activities for people who are blind and the opportunity of more community inter-action.

## FINANCIAL ASSISTANCE AND WELFARE

9.6 The Foundation can offer financial assistance in cases where financial hardship is recognised. Subsidies for braille equipment and grants for clothing, grocery orders, winter fuel, low vision aids, and travel expenses are the most frequent reasons for financial assistance.

Various welfare services are provided. Among these are home visits by social workers to blind members or parents of blind children to keep them informed of new services and new developments in technological aids.

Accommodation is provided in the form of hostels located in Auckland and Christchurch for elderly blind members or members incapable of living independently. Semi-independent living units where a group of blind members live much like a family with the minimum of supervision are also available. Many members progress from these semi-independent living units to independent living arrangements.



A limited Low Vision Clinic service is available through referral to Homai College, where members with low vision are trained in the use of special aids and skills that will allow them their maximum independence within the bounds of their particular level of limited vision.



## CHAPTER 10: ACCESS

10.1 People should be able to participate in the activities of daily living, in employment, leisure, entertainment and all forms of recreation. The concept of "Barrier Free" design promotes the goal of independence for disabled people. It is generally agreed that certain types of barrier free provisions designed to make access to and use of buildings easier for those who are blind will also make things easier for other disability groups, including wheelchair users. For instance, gratings are hazardous for crutches and wheelchairs as well as for white sticks and long canes. However, the reverse is not always true. Ramped kerbs are misleading to a blind person. A solution is to place the kerbs diagonally at corners so that people with a visual impairment do not inadvertently walk into the street.

10.2 The specific access requirements for people who are blind or have low vision to buildings, transport, information systems and the environment generally, are largely underdeveloped, although such as have been developed are included in the revised NZ Standard 4121.

Under the provisions of the Disabled Persons Community Welfare Act (1975), which refers to NZ S4121, new buildings and renovations of older buildings used by the public must be accessible. The community of vision impaired people and professionals providing services to them has not promoted access provisions very vigorously, probably because blindness does not commonly prevent the overcoming of most architectural barriers. People with a loss of sight can to some degree be instructed in ways of compensating for it by using certain orientation and mobility techniques which amount to a near science.

The most consistently advocated solutions to the problem of accessibility for blind people are better orientation and mobility instruction and improved electronic or biomedical sensory aids.

10.3 Mobility has by now come to be considered as an essential school subject for blind children, culminating in their ability to walk through familiar and unfamiliar environments independently. Teaching children to use a long cane, to develop sensitivity to such stimuli as sound and air currents and to locate and make use of directional cues is one side of the coin; the other is developing an environment in which the ability to use these skills is enhanced. The thoughtful design of the immediate environment can enhance substantially the independence of people with low vision - audible crossings, bold signs and bus numbers, textured pavements indicating pedestrian crossings and flights of stairs in open forecourts and the provision of "shorelines" to follow in open areas - all these and other design features are of assistance.

10.4 As well as design provisions, the environment can be made more accessible to a blind person who prefers to operate independently by the introduction of such things as Brailled menus in restaurants, the development of museums featuring exhibits that can be touched, and bushwalks such as those in Catlins Forest Park and Whakarewarewa.

10.5 Although there is legislative provision for any blind person accompanied by a guide-dog to enter and remain in an eating house, public place accessible to the general public as of right (or on payment of a fee), or on any form of public transport, from time to time blind people with guide-dogs have difficulties with taxis and restaurants. People who are blind and unable to use public transport are eligible to participate in the Total Mobility Scheme operating through the Disabled Persons Assembly.

10.6 Sensory impairments are unique in that they cause an "information handicap". To have a visual impairment generally means to be limited in accessing the vast amount of information available to sighted persons, or to be print handicapped. Recent developments in microprocessor equipment, such as computers with synthesized speech and computers able to scan a printed page and give an auditory output, give promise of full access to the printed word. It is essential that the information revolution currently in progress includes the needs of print-handicapped people (King 1982).

Recommendation 40: To the BCNZ, NZ Planning Council and the Communications Advisory Council.

That overseas developments in the conversion of Teletext and Videotext services into forms suitable for blind users be monitored and made available in New Zealand, and radio for the print-handicapped be further developed.

## ERGONOMIC FACTORS

10.7 The influence of matters such as illumination standards and consumer appliance design can be more important to a visually impaired person in activities of daily living than an individual aid. Manufacturers, architects and others should be encouraged to consider design features which take the person with low vision into consideration, such as the position of windows for maximum use of natural lighting, and the convenience of switches and flexibility of artificial lighting sources.

Some factors which can assist a person with low vision to move around independently are floor texture changes; colour contrasts (those with only 3% vision can still react to colour change), particularly to indicate hazardous areas; lift indicators that are both visible and audible and audible alarm systems.

Recommendation 41: To the Design Council

That evaluation of worthwhile design for consumer lighting appliances should also include design features which are ergonomically sound for a person with reduced visual acuity.





## CHAPTER 11: EMPLOYMENT

11.1 A comprehensive survey of the employment position of the visually handicapped person in New Zealand was carried out by Beatson (1979). 1419 persons of working age who were registered with the Foundation for the Blind were surveyed. 760 (53.6%) were men and 659 (40.4%) were women. In this survey 'Blindness' was defined to include any person whose visual acuity was 6/60 or less, or whose field of vision was severely limited.

### RANGE OF EMPLOYMENT

11.2 The survey found that visually handicapped people were employed in a wide range of jobs. There were 74 different jobs or types of job being performed by blind people. Most of these occupations involved only a very small number of blind people and cannot be regarded as typical jobs for the visually handicapped. The vast majority (76%) were concentrated in one or other of only fifteen types of jobs. Of these, almost half (48%) were in only four types of jobs, namely: factory worker, sheltered workshop for the blind, switchboard operator or labourer.

TABLE 7: Occupation of Workers with Visual Handicaps

<u>Occupation</u>	<u>Number of persons</u>
Factory worker	116
Sheltered workshop for blind workers	55
Switchboard operator	53
Labourer	50
Workshop for intellectually handicapped workers	25
Help in family business	23
Hospital orderly/nurse aid	21
Darkroom technician	15
Typist	13
Farmer	12
Storeman	12
Physiotherapist	11
Office worker	11
Librarian	10
Welfare Officer	10

People with visual disabilities are capable of doing a wide range of jobs, but in practice job opportunities for the average blind person across the range of employment types appear to be extremely limited. No blind people were classed as 'employers' or as 'managerial workers'. They were heavily over-represented in manual occupations. Furthermore, the second largest employment category after 'factory worker' was sheltered work, either in RNZFB or Society for the Intellectually Handicapped Workshops.

## UNEMPLOYMENT

11.3 Only 573 persons (about 40%) of the 1,419 blind people of working age were employed. 222 persons (about 16%) were classed as 'unemployable' while 175 persons (about 12.5%) were unemployed. Thus about 28.5% of the sample were in a state of involuntary inactivity.

About one fifth of the population were classed as 'housewives', which may include hidden unemployment particularly amongst women. As only 44% of blind women were currently married (as against 71% of all women), some single unemployed blind women may have been describing themselves as "housewives" (see 11.6).

A more recent survey of RNZFB member needs and services (G.M. Vaughan et al, 1982) found that 88% of respondents were not working. The major categories of employment were retired and homemaker. This reflects the fact that 66% of respondents were aged over 60. However, if all the 60 plus age group are non-workers, then the remaining 30% of respondents in the working age group account for the 12% of respondents who are employed. Applying these percentages to the actual figures reveals the fact that only 40% of blind people of working age are employed (an identical finding to that of Beatson).

## UNDER-EMPLOYMENT

11.4 Those blind people who work are heavily concentrated in occupations with low prestige and low socio-economic status. Only about 1% were to be found in ranks 1 and 2 of the Davis Scale, whereas about 64.5% were concentrated in the two lowest ranks on the Elley and Irving scale. About 38% of blind women, as against only 12.5% of all women were in the lowest socio-economic rank; this discrepancy is even more marked in the case of men, where about 48% of blind men as against 12.5% of all men were in the lowest rank. The study showed also that of 80 blind persons about whom information was available concerning their previous, sighted occupation, only two had kept their former jobs, and at least 70% of them had experienced downward occupational mobility as a result of the onset of blindness.

## EFFECT OF ONSET AGE

11.5 Over a third of the subjects had become blind before taking up their first job. People who had been blind from infancy had more chance of being in paid employment and less chance of being unemployed, than those who became blind after the age of 30. 7% of those becoming blind since infancy were unemployed, while 18.5% of those blind after the age of 30 were unemployed. The blind-since-infancy group also had a higher chance of being rated 'unemployable', reflecting, perhaps, the high prevalence of multiple handicaps amongst those blind since birth.

It appears that children blind from birth have grown up with their disability, have been given special education to compensate for it and later vocational guidance to help them into a job whenever employment was possible. This seems to have given them a competitive edge over those developing blindness later in life, who may find more difficulty in adjusting to its limitations and acquiring the skills necessary to enter the predominantly sighted labour force.

Only about a third of the blind population being considered possessed no useful sight at all. Possessing a certain amount of residual vision was not an advantage from the point of view of employment. On the contrary, the severely or totally blind person appeared on average to get better jobs than those who possessed some degree of sight.

## MEN AND WOMEN'S EMPLOYMENT PATTERN

11.6 The pattern of employment for blind women differed not only from that of blind men, but also from that of women in the total New Zealand work force. 70.5% of the blind labour force were men and 29.5% were women, whereas of the total N.Z. labour force 64.5% were men while 35.5% were women. In the survey, fewer blind women were classed as 'unemployed' whereas in the population as a whole, the number of unemployed women exceeded that of men. The survey thus revealed a paradox: fewer blind women were employed, but also fewer blind women were unemployed, compared with women in New Zealand as a whole. It is these findings that raise questions about the classification of so many blind women as 'housewives'.

## EMPLOYMENT OF MULTI-HANDICAPPED BLIND PEOPLE

11.7 About one third of the blind population of working age had one or more other handicap or medical condition. Having a multiple handicap had marked negative consequences for employment. Less than 20% of multihandicapped blind people were employed at the end of 1979. About 41.5% of multihandicapped people were classed as 'unemployable', whereas only about 2% of those with no other handicap were in this category. Even when they did manage to find employment multihandicapped people tended to find themselves in jobs with lower prestige than those with no other handicap.

It seems that with an increasing number of children surviving with severe multiple handicaps (the most common other disability being intellectual handicap), the child blind or severely visually handicapped since birth has a greater risk than others of being multihandicapped and consequently of finding himself/herself in the unemployable class. It is not so much being blind from birth as being multihandicapped that poses the greatest threat to employment prospects.

Burgeoning technology offers significant prospects for expanded employment opportunities. For example, the advent of speech synthesis should revolutionise the acquisition of information from visual display units and open up the world of computerisation. Not only employment prospects but a quality of life should improve when this technology becomes readily available.

## VOCATIONAL TRAINING

11.8 The Royal New Zealand Foundation for the Blind has an industrial division which includes a work skills assessment and training unit. This unit measures basic abilities and develops these through training or special assistance, utilising contracts obtained from commercial organisations. Specific training periods of six months are available, but can be reviewed to provide an ongoing more sheltered environment for those needing extended training and allowing those more capable to move to other employment when they have completed their training (see Section 9.2).

The facilities of the Rehabilitation League are also available to the visually impaired person and the visually handicapped job seeker requiring assistance may also be helped through the Special Duties Section of the Department of Labour.

## JOB OPPORTUNITIES SCHEME

11.9 The Department of Labour administers a job opportunities scheme targeted towards meeting training needs and assisting access to employment for disabled people, including people with vision impairments. The Job Opportunities Scheme: Development, gives employers financial assistance for up to 2 years to offset costs incurred in providing a supportive work environment for job seekers who are disadvantaged by a disability. The subsidy is available for full time and part time workers. To qualify for the subsidy, employers need to demonstrate that they can provide work experience in a supportive, caring work environment. Job seekers must enrol with the Department of Labour.



## MODIFICATION GRANTS

11.10 Grants can now be paid to employers who are prepared to open up employment opportunities for disabled people registered with the Department of Labour. The grants are able to be used to assist employers to meet the costs of improving access to the workplace and amenities, modifying plant or equipment or generally allowing the place of work to be adjusted to meet the physical needs of an employee with a disability.

Minor modifications include: Braille markings, synthesised speech calculations, electronic measuring devices, anglepoise lights, talking volt meters, weighing scales and warning signal devices. However, the number of visually impaired people worldwide requiring adapted equipment is small, making commercial production non-profitable.

Access to these programmes is achieved by enrolling with the Department's Employment and Vocational Guidance Service.

## TRANSITION TO EMPLOYMENT

11.11 The transition from school to employment is one of the most crucial developmental stages requiring special attention. In 1981 Homai College initiated a special programme for 16 - 18 year olds which helps prepare visually impaired adolescents for employment and adult life. This programme undertakes to assess and develop social and vocational skills and provide opportunities to continue education in tertiary or other training institutes (see 6.2).

11.12 The Department of Labour ACCESS programme is a system of transition education and training. It is voluntary, community based and will provide for groups identified as being at a disadvantage in the labour market, such as people with disabilities. People may enrol with the Department of Labour or direct with an individual or organisation authorised to provide ACCESS education or training.

11.13 Adequate resources are needed by all agencies working with visually impaired people in the field of pre-vocational and vocational training, guidance assessment, work placement and experience.

11.14 However with the present scarcity of economic resources, it is essential that all existing resources are carefully managed in order to avoid duplication of services and in order to make the best possible use of the present provisions before new provisions are sought.

11.15 Close co-operation between the Department of Labour, the Rehabilitation League and the R.N.Z.F.B. Industrial Division is essential to help visually impaired people in obtaining satisfying work. The employment prospects of a visually impaired person are directly related to the adequacy of the support services provided for them. There should however be improvement in coordination of services of value to the visually impaired, including:

- access to training subsidies;
- improved statistical identification of types and nature of visual impairment within the employable age range and its particular implications for employment.
- improved availability of labour market information to assist appropriate training;
- better access to contract work for training purposes and for those whose prospects of employment are marginal;
- improvement and upgrading in the training of staff engaged in providing work training and work placement support for visually impaired job seekers;
- increased efforts to promote awareness of the employment needs of visually impaired people in the community and to promote incentives to employers.

11.16 The Rehabilitation League, Department of Labour, Technical Institutes, the Royal New Zealand Foundation for the Blind and private employers should assess current resources and actively seek co-operation and co-ordination of programmes.

11.17 There is a need to examine a number of specific areas in relation to current training provisions:

- . reappraisal of Government subsidies to the Royal New Zealand Foundation for the Blind for work related training, to take account of today's needs, and the Foundation's revised industrial and assessment policy.
- . access to accommodation grants for visually impaired individuals undertaking the Foundation's specialised work assessment and training programme, or other vocational training requiring absence from home.
- . the suggestion that the Inland Revenue Department be asked to introduce a depreciation allowance to offset any outlay by employers on high cost technology necessary for the employment of visually impaired people. It is more effective to buy an expensive piece of equipment than to maintain a person on a benefit.

- . training schemes run by Technical Institutes with back-up support for basic social and manipulative skills provided by those trained in assisting people with vision problems.

Recommendation 42: To the Department of Labour, Rehabilitation League and the Royal New Zealand Foundation for the Blind.

That the Department of Labour, Rehabilitation League and Royal New Zealand Foundation for the Blind set up a working group dealing with vocational training and employment related issues in order to:

- . clarify present facilities and services available to the visually impaired person.
- . suggest ways in which these resources could be better utilised.
- . investigate the need for additional resources to be allocated to areas of vocational training and facilitation of employment.

11.18 The working group needs to focus particularly on the needs of special groups such as the multihandicapped blind young person, and the person becoming blind after age 30, as well as on the general group of visually impaired and blind people. The question of training to gain and retain worthwhile employment is probably one of the most important issues for the visually impaired person at the present time. The working group should be small, practical and act without delay in their task of co-ordinating and where necessary recommending the development of provisions.



## CHAPTER 12: LEISURE OPPORTUNITIES

12.1 Hobbies, sports and other leisure-time activities cannot be dismissed as just a way of filling in time. They are frequently valuable in their own right, are usually actively pursued and developed, and may become an integral part of an individual's personality. Unlike a vocational calling however, such activities are pursued for pleasure rather than profit, and for life rather than livelihood.

12.2 General rewards which derive from hobbies, sports and other recreational activities are:

"self-development and self-realization through ever-growing knowledge, skill and productivity; relaxation and refreshment of spirit through a change of pace; the awakening of unsuspected capacities, such as latent skill and creative ability; recognition from others; and the enhancement and enrichment of life through widened horizons, broader social contacts and new dimensions of interest, stimulation and self-discovery."

As well as these general rewards, some-one with a visual impairment may experience special benefits - recreational activities may shift the focus from disability to ability, from passivity and spectatorship to activity and interest. Frequently they offer a constructive antidote to monotony and boredom by evoking an individual's own resources.

12.3 Blind or low vision school-children are engaged in preparing for life and are likely to find a particular value in developing pursuits they will wish to continue after leaving school. Blind children also need to develop the same large muscles and co-ordination abilities as do sighted children. Therefore although a visually impaired child may need extra coaching in school subjects, it is undesirable that physical education and games time be used for this.

12.4 In some instances, special encouragement, guidance and assistance may be needed. Any recreational programme for visually impaired individuals should be initiated with the thought that blind people will be interested in all forms of recreational activity. Those who are congenitally blind may need to develop new social skills as they relate to recreation, whereas newly blind people who have developed social skills may need to learn to adapt these to their old recreational pursuits. The ultimate aim is integration into everyday community-based recreational patterns.

Recommendation 43: To the Department of Education.

That teachers have the resources to provide blind children with an appropriate exercise programme and are encouraged to include blind children in games and physical education.



12.5 There have been some recent moves designed to assist blind people to make use of their community's recreational facilities. Napier's Marineland has a museum where visitors are encouraged to touch the exhibits and information is written in Braille. Libraries provide large print books and talking books. In addition, the Auckland Public Library has installed a machine which "translates" the printed word into synthetic speech. Some scenic reserves provide information in Braille and some restaurants provide Braille menus. People who are blind currently participate in a wide range of activities - skiing, horse-riding, yachting, marathons, swimming, rally navigating and sculpting. The Ministry of Recreation and Sport has funded a national recreation adviser to the RNZFB for 3 years.

Recommendation 44: To Local Authorities

That libraries install closed circuit T.V.'s for users with visual impairment and use appropriate technology as it develops to make books accessible to people with visual impairments.

Recommendation 45: To the Disabled Persons Assembly and RNZFB.

That the Disabled Persons Assembly and the RNZFB encourage participation in recreation and sport by their members and approach restaurants with a request for Braille menus.

Recommendation 46: To the Hilary Commission.

That sporting bodies and recreational clubs be encouraged to include people with visual impairments in their activities and to be aware of their special needs.

Recommendation 47: Queen Elizabeth II Arts Council.

That the needs of disabled people, particularly those with a sight disability, be taken into account when programmes are devised.

## CHAPTER 13: MEETING THE NEEDS OF VISUALLY HANDICAPPED PEOPLE WITH ADDITIONAL DISABILITIES

13.1 A 1982 study of members registered with the Royal New Zealand Foundation for the Blind showed that around 58% of registrants had disabilities in addition to blindness. This is not surprising as two-thirds of respondents were over the age of 60. Over one-third of those questioned had an arthritic condition and around a quarter suffered from heart disease, while a further quarter reported deafness. In revealing their ability to move about freely, 10% said they were confined to home whilst only 10% were able to travel independently. (Vaughan et al 1982).

13.2 In line with world trends, a new phenomenon is influencing the nature of the visually handicapped population. The survival rate of premature babies continues to improve as a consequence of increasingly more refined neo-natal techniques. The incidence of children being born prematurely with multihandicap is increasing as a function of this survival rate. Although there is little published literature available in New Zealand on this matter, English statistics reveal that up to 77% of children born with a visual handicap have an additional disability - either intellectual, auditory or physical. (Mitchell E. 1982).

13.3 A further British survey of blind children in integrated educational programmes indicated that only 21% had a visual handicap alone. The remainder were additionally disabled by at least one other impairment. The implications of these trends for service providers is far reaching. (Colborne Brown 1982).

13.4 As vision is a prime sense for development and maturation, its loss has a multiplicative rather than an additive effect on additional handicaps. The anxiety and stress for a family with a multihandicapped blind child can be overwhelming. Single parent families or those from a cultural minority are especially vulnerable.

13.5 Offering the educationally blind child who has additional handicaps equality of opportunity in the community commensurate with ability, is expensive on resources and taxing on resourcefulness. To have a visually handicapped child, even of normal ability, imposes limits on life's options. To have a multihandicapped child whose disability is compounded by visual impairment is acutely distressing. In this area more than any other, future services can be improved by better and more comprehensive co-operation among the providing services; less distinction between agencies providing for specific different handicaps and more effective total use of voluntary and statutory services.

Recommendation 48: To the Departments of Health, Social Welfare and Education, and to the RNZ Foundation for the Blind, the NZ Crippled Children Society and the NZ Society for Intellectually Handicapped.

That a working group be set up to co-ordinate services to multi-handicapped children and adults and the provision of services to parents of multi-handicapped children.

## CHAPTER 14: LOW VISION CLINICS

### THE CLINIC

14.1 There are four loci of professional interest in the field of low vision.

(i) The Royal NZ Foundation for the Blind

The Royal Foundation for the Blind at Homai College, Manurewa, Auckland, has a limited service available to partially sighted people registered with the Foundation.

(ii) Private Ophthalmologists and Optometrists

A private service is offered by some private ophthalmologists and optometrists with special expertise in low vision in several areas not served by Clinics, but this is on an ad hoc and very restricted basis.

(iii) Public Hospitals

At present Low Vision clinics have been established in the Eye Departments of the following public hospitals:- Whangarei, Palmerston North, Masterton, Wellington, Christchurch, and Dunedin. Supplementary services exist in Napier.

14.2 A low vision clinic assesses and diagnoses people with vision impairment and aims to rehabilitate the person with low vision as far as is practicable by:

- . helping clients define their needs;
- . helping clients use remaining visual function by the use of aids and appliances;
- . helping clients develop their other senses to enable maintenance of mobility, communication and independence;
- . liaising with teachers regarding visual expectation of low vision school-age children living at home and attending local schools;
- . liaising with employers regarding work and the work place.

14.3 In addition, the Low Vision Clinic has an important role to play in:

- . assessing newly developed aids and techniques;
- . gathering statistical and epidemiological data on the low vision population;

- . providing special training facilities in vision rehabilitation to registrars in Ophthalmology and students of Optometry, and field work experience for graduate students in low vision therapy;
- . providing support for education programmes which increase understanding among the public.

14.4 Recent developments indicate that to function at maximum potential a person must:

- . have an understanding of the underlying disease and its symptoms;
- . be taught how to use residual vision in the most efficient way;
- . know how to use correctly any optical aid or aids which have been prescribed.

14.5 The Ophthalmologist, who is a doctor trained in the diagnosis and treatment of eye diseases and correction of optical errors, is the most appropriate professional to explain to the client the implications of the symptoms. The Optometrist, who examines eyes to determine the presence of vision problems or other abnormalities and may prescribe and adapt lenses or other optical aids, reinforces these explanations during assessment. An occupational therapist can provide effective follow-up, and is directly involved in teaching the use of residual vision and how to use aids.

14.6 The majority of those with low vision are elderly and their most frequent request is for assistance with reading. Their visual impairment is often complicated by disabilities associated with other degenerative disease conditions, which necessitates frequent reviews. This client group may need considerable support in order to develop a positive attitude towards the rehabilitative process. Many may have accepted the disability consequent on their low vision as an inevitable part of ageing and think nothing can be done. Good diagnosis, prescription of and training in the correct use of aids and appliances is an important part of the process of providing motivation towards rehabilitation.

14.7 For young people with low vision there is a heavy emphasis on the need for aids and appliances to meet the needs of the educational process, both formal and informal, and to foster independence. In later years the emphasis shifts to helping people sustain skills and activities and retaining independence at home, in the workplace and in society.

## PRESENT POSITION

14.8 New Zealand's relatively low population densities scattered over small cities, towns and sparsely settled isolated rural areas, create special problems in the provision of adequate low vision services to the entire population. A completely comprehensive service such as might exist in the six major regional areas could not be contemplated for secondary areas because there would be underutilisation of scarce



specialist staff and higher cost considerations in setting up special clinic facilities. However, since each clinic puts through about 70 new clients per year and follows up about another 300 clients, this represents at most 1600 clients. It is estimated that there are 30,000 people in New Zealand with low vision (see Section 3). The low vision clinics are only reaching the tip of the iceberg.

14.9 At a Seminar co-ordinated by the RNZ Foundation for the Blind, held in Rotorua 11/12 October 1980 at which the majority of Ophthalmologists, Optometrists, and RNZ Foundation for the Blind personnel concerned with low vision care in New Zealand were present, the following resolution was passed unanimously:

"That the Hospital Advisory Council urgently establish Low Vision Clinics in each of the six metropolitan areas in N.Z. (Auckland, Hamilton, Palmerston North, Wellington, Christchurch, Dunedin)."

14.10 This resolution was also passed by the Ophthalmological Society of NZ and the NZ Society for the Prevention of Blindness. The point of entry to a Low Vision Clinic should preferably be via an Eye Specialist at a General Hospital Clinic or in Private Practice. This is to ensure that all ophthalmological treatment of either a medical or surgical nature required has been given before low vision aids are prescribed. This is because many cases of reduced visual acuity may be alleviated by magnifying aids but urgent medical and/or surgical treatment may be required first. If magnifying aids were prescribed indiscriminantly by untrained people, eye pathology of a treatable nature may be missed until it is too late for any treatment to be successful. A hospital-based service also goes some way to ensure that people are not talked into expensive equipment which they do not need or is not applicable to their requirements. In addition, full use can be made of other Hospital Services, with cross referral where indicated. Use can also be made of hospital eye clinic staff, such as registered nurse, occupational therapist, and secretarial assistants. Apart from the sessions required for the Ophthalmologist and Optometrist any other hospital based staff will be employed full time already. The services they provide will be only a variation and addition to their normal activities within outpatient services.

Follow-up work to assessments done in the actual clinic is usually necessary. Solving difficulties of lighting or visual environmental adaptation problems frequently involves one in travelling to the home or work place. This contact could uncover other factors not elicited in the clinical environment, which might involve further time or organisation to resolve. In the New Zealand environment an occupational therapist possesses the appropriate professional background to develop the specialist skills needed to perform these functions.

Recommendation 49: To the Department of Health

That urgent consideration is given to the extension of current hospital-based services to include Low Vision Clinics, particularly in the Auckland and Waikato Hospital Boards.

Recommendation 50: To the Department of Health

That Occupational Therapists with special post-basic training in low vision be made available to Low Vision Clinics.

## CHAPTER 15: SPECIAL EQUIPMENT

### TYPES OF SPECIAL EQUIPMENT

15.1 People who retain some useful vision can often improve their distance or near visual performance by using a low vision aid. Low vision aids do not improve vision in the way that new spectacles do, but are functionally specific.

15.2 In recent years great strides have been made in the development of equipment which assists partially sighted people to use their residual vision. These aids make use of the principle of magnification. Devices giving magnification of up to 15x have been developed in lightweight plastic and can be either hand-held, or devised in such a way that they can be mounted into an ordinary spectacle frame. Care has been taken to make these vision aids as cosmetically acceptable as possible.

15.3 Magnifying devices can now be prescribed for many people previously told that there was nothing further that could be done to help their sight. Low vision aids can help them to continue reading and to gain some improvement in their distance vision for activities such as television and blackboard viewing and for watching various sporting activities. Special equipment for those without residual vision relies on providing information through senses other than that of sight.

15.4 Low vision aids are available after assessment in Low Vision Clinics (see section 14). The following list of such aids is by no means exhaustive but serves to illustrate the diverse nature of these items.

The list of assistive devices is divided into 6 categories.

(i) Visual - Optical: These include -

- Spectacles,
- Contact Lenses,
- Infra-red sunglasses,
- Magnifiers,
- Telescopic aids,
- Microscopes,
- Projection devices and
- Closed Circuit Television.

(ii) Visual - non-optical: These include -

- Large print books,
- Talking books, talking calculators and clocks,
- Jumbo playing cards,
- Self threading needles,
- Luminous large numbered telephone dials,
- Glare control devices,
- Writing aids, and
- Reading and posture aids.

(iii) Vocational Aids: These include -

Synthesised speech calculators,  
Computer terminals & word processors,  
Tactile sensory tools and electronic measuring devices,  
Proximity or warning signal devices, and  
Environmental sensors.

(iv) Medical: These include -

Insulin syringe guides and  
Medicine dispensers.

(v) Aids to Daily Living: These include -

Cooking aids,  
Money handling aids and  
Needle threaders.

(vi) Mobility: These include -

Long canes,  
Guide-dogs, and  
Electronic range sensors.

#### PROVISION OF SPECIAL EQUIPMENT

15.5 The following agencies are involved with the provision of low vision aids and can also give advice on sources of financial assistance.

- Low Vision Clinics
- Royal New Zealand Foundation for the Blind agencies
- Hospital, Social or Occupational therapy services
- Department of Education
- Accident Compensation Corporation
- Rehabilitation League
- Department of Social Welfare

Close co-operation between agencies is needed in cases where more than one agency is involved in the provision of an aid to an individual.

15.6 The variety of low vision aids used by any one individual depends on the following factors:

- . knowledge that the aid exists;
- . motivation to obtain the aid, and sufficient dexterity to use it;
- . adequate funds;
- . training or follow-up facilities;
- . facilities for repairs or servicing.

15.7 People should have access to information about available low vision aids. However direct marketing of prescriptive devices to consumers should be discouraged as most devices require training in their use. Absence of professional consultation may also lead to lack of diagnosis and appropriate treatment. Displays of low vision aids would stimulate interest and provide the appropriate information without exerting pressure. To this end, a well equipped national low vision aids display centre should be established in Auckland in consultation with the RNZ Foundation for the Blind. Some assistive devices are at present displayed at the Independent Living Centre in Erson Avenue, Auckland, but this display is not yet comprehensive, nor widely publicised. Small displays of commonly used low vision aids are sited at each of the regional Low Vision Clinics.

Recommendation 51: To the Royal NZ Foundation for the Blind.

That a national low vision aids and appliances display should be established after consultation between the R.N.Z.F.B, the Independent Living Centres, Low Vision Clinics and other interested parties.

#### CONSUMER EVALUATION

15.8 With rapidly advancing technology the range and sophistication of available equipment are increasing, and adequate evaluation of them is becoming increasingly important. Evaluation of special equipment could be carried out by:

- . Low Vision Clinics.
- . Royal NZ Foundation for the Blind.
- . Consumers Institute.

Low Vision Clinics - The Low Vision Clinics should be used for the evaluation of optical and non-optical visual aids in co-operation with the RNZ Foundation for the Blind.

RNZ Foundation for the Blind - The Foundation has an "Equipment for the Blind" Committee which evaluates aids. In addition, it has a strong social work wing whose staff travel about the country, talking to consumers about their needs. They are in a good position to evaluate special equipment, particularly aids to daily living.

Consumers Institute - The Consumers Institute has testing facilities for products and is in a position to provide information on factors such as efficiency, electrical safety, performance, etc. The legibility, size and position of scales on many household appliances make it very difficult for a person with low vision to set a control with any degree of accuracy. Timers on stoves are audible but for an elderly person who may also be hard of hearing a flashing signal lamp would be a useful additional feature. Procedures involving evaluation of normal home appliances for visually impaired people could be carried out by the Consumer Institute as part of their standard evaluation procedures.



Recommendation 52: To the NZ Consumers Institute.

That the Consumer Institute recognises the special difficulties of disabled people (including those with low vision) in its evaluation of consumer equipment.

#### METHODS OF FUNDING AIDS

15.9 Department of Health - The Hospital Schedule for aids and appliances is under review. There are some anomalies in the provision of assistance to various disability groups. The Advisory Council hopes that some of these can be removed and that recognition can be given to the need for low vision optical aids to be included in the Schedule.

Recommendation 53: To the Department of Health.

That the Hospital Schedule list be expanded to include all commonly utilised low vision optical aids.

15.10 Hospital Boards will, in certain cases, assist persons who cannot afford to purchase spectacles. Such assistance is extended only to those in real need and is determined by a Means Test. Application is made to the Hospital Board's Social Welfare Department and details relating to financial circumstances must be given.

Recommendation 54: To the Department of Health.

That consideration be given towards providing a subsidy towards the cost of children's spectacles.

15.11 Department of Social Welfare - There is no benefit provided by the Department of Social Welfare specifically for the purchase of spectacles. However in those areas where the Hospital Board is unable to provide assistance, the Department will consider providing assistance by way of special needs grants.

15.11.1 Disability Allowance - If regular changes of a low vision aid or regular treatment is required, a continuing grant in recognition of these continuing expenses may be provided. This grant would need to be applied for annually (see 5.2).

15.11.2 Disabled Persons Community Welfare Act (1975) - Section 26(3)(a) enables the Director-General to "grant financial assistance towards the expenses of any disabled person undergoing any period of assessment, work experience, training or education." and to "grant financial assistance towards the cost of training or education or clothing, or the obtaining of practical experience or equipment, necessary to enable any disabled person to engage in any occupation that in the opinion of the Director-General is suitable." This section could provide the mechanism for the funding of some low vision aids in cases where they are work related. In addition, section 15 provides assistance for equipment needed for a person to remain in or move into private accommodation.

15.12 Department of Labour - When an aid is to be used for occupational purposes, a modification grant may be made available to an employer from the Department of Labour. These grants assist employers to meet the costs of improving access to the workplace and modifying plant or equipment to enable a disabled worker to be employed. The disabled person must first be registered as unemployed with the Department of Labour (see 11.10).

15.13 Accident Compensation Act 1972 - Under section 49(2)f provision can be made for an aid for daily living for an incapacitated person who is eligible for accident compensation benefits.

15.14 Royal New Zealand Foundation for the Blind - The R.N.Z.F.B. stocks a range of aids for daily living, recreational and vocational aids which it distributes to members through its welfare service. These are returned to the Foundation if they become redundant. Funding for aids is from interest on endowment trust monies set aside for the purpose and supplemented if necessary by an allocation from the Braille Week collection.

The cost of complex technological aids such as the Opticon and CCTV read/write systems are stretching resources so that financial assistance for aids of this nature is restricted to the most needy. Traditionally assistance is primarily for educational or vocational purposes. Funding for any aid costing over \$500 is usually limited to a 25% subsidy by the Foundation. Funding for expensive aids is usually found through multiple sources.

Recommendation 55: To the Royal NZ Foundation for the Blind.

That whether or not the R.N.Z.F.B. subsidises the aid, the Foundation could become the contracting party to a purchase on behalf of its members. The Foundation should also determine the title of ownership so that the responsibility for maintenance and eventual sale of redundant equipment is clearly established.

15.15 Purchased by the User - People with low vision who are receiving a benefit are at a disadvantage if expensive aids are needed.

15.16 Low Vision Clinics - At present there are regional differences in the method of funding optical and non-optical visual aids. Two basic systems have evolved. In Christchurch low vision aids are sold outright to the patient, but at the Palmerston North and Dunedin Clinics the low vision aids are rented to clients at a small charge. Both these systems are affected by the Goods and Services Tax (see 15.19).

15.17 A compromise position combining some of the benefits of both the outright sale and the loan scheme, would be to adopt a rental scheme which substantially reflects a rate of depreciation based upon the expected life of the aid. Thus a plastic aid which might scratch easily and last only four years at best might be charged out at a rental of 25% per annum, while an anglepoise lamp with an expected life of 20 years might have a rental of 5% per annum. A rental would encourage the return of unused aids and retain some measure of contact with the clinic. There would also be a significant saving if recycling was adopted, since much of the value of an aid is in imported content and the drain on overseas funds would therefore be reduced.

Recommendation 56: To Hospital Boards.

That a uniform policy concerning the subsidised supply of visual and non-visual aids be adopted by all Hospital Boards.

Such a policy could include for all low vision aids utilising plastic lenses a rental of 25% per annum be charged, for all low vision aids utilising glass lenses a rental of 20%, and for durable low vision aids such as reading stands and anglepoise lamps a rental per annum related to their depreciation rate.

IMPORTATION OF AIDS AND GST

15.18 The 1950 UNESCO Agreement on the Importation of Education, Scientific and Cultural Materials (known as the Florence Agreement) allows for duty-free entry of goods specially designed for blind people. New Zealand has been a party to this agreement since 1962. In 1976 an extension to this agreement, the Nairobi protocol, was drawn up to take account of technical advances in information storage and changes in international trade.

In July 1981 the NZ Government signed the Nairobi protocol after the Advisory Council and other organisations representing disabled people had urged that it be ratified. The Customs Tariff (UNESCO Agreement) Amendment Order 1981 and the Sales Tax Exemption Amendment No 11, giving effect to the entry of those goods covered by the various Annexes accepted, were approved by the Government, and became effective from 1 December 1981. This meant that goods currently imported and covered by the Protocol were eligible for duty concessions and sales-tax free entry into New Zealand.

Annex E of the Protocol specifies that these concessions are available on articles specially designed for the education, employment and social advancement of disabled people, only when equivalent articles are not being manufactured in New Zealand and when they are imported by approved organisations.

The Protocol does not require the goods to be exempted from internal taxation. However the Government decided that in keeping with the spirit of the Protocol, exemption from sales tax would also be granted where duty concessions would apply.

15.19 The introduction of the Goods and Services Tax will have an effect on the present sales tax exemption, as equipment previously exempted from sales tax under the Florence Agreement will be liable for the Goods and Services Tax.

Non-profit bodies which supply goods and services totalling more than \$24,000 per year must register for GST with the Department of Inland Revenue. Taxable supplies include incoming subscriptions, grants, raffles and hall hire. Hiring out of equipment is also liable for GST, which will raise the cost to the individual. A credit may be claimed for GST paid on all purchases.

Non-profit bodies supplying goods and services totalling less than \$24,000 per year may register if they choose. As only those bodies registered with Inland Revenue and charging GST may claim a credit for GST on purchases, groups with good accounting systems and reasonably high purchasing costs may choose to register and will also be obliged to charge GST on all equipment hired out.

All non-profit bodies which either have to register or choose to register for GST may claim a credit for GST paid on purchases of equipment. The individual consumer is liable for the extra cost of GST on purchased equipment, as is any non-profit body with taxable supplies less than \$24,000 per year which does not register for GST. As Recommendation 55 of this report would assist in keeping equipment costs lower than they would be if the equipment were purchased by an individual, this recommendation is further endorsed.





## CHAPTER 16: POSTSCRIPT: MR D MCKENZIE OBE THE SPECIAL NEED FOR SPIRITUAL AND EMOTIONAL GROWTH

16.1 Subtle, and not so subtle failure, rejection or misunderstanding are daily reminders of the limitations all visually handicapped people have to come to terms with, to some degree or other. The ever-present uncertainties and ineptitudes encountered in the most ordinary life situation, are realities that have to be dealt with constantly by the visually handicapped person. Coping with visual handicap calls for the mobilisation of inner resources and a resilience normally demanded of people only in crisis situations.

16.2 Although emotional coping and spiritual coping overlap, they are far from being the same thing. A good deal of security comes from facing the challenges of growth in self-identity and in a quest for the purpose and meaning in life. Every disabled person has frequent cause to ask the questions:

- ... where have I come from?
- ... why am I here?
- ... why has "this" happened to me?
- ... why bother struggling?
- ... where am I going?

16.3 Answers to these "ultimate concerns" rest in the very essence and ground of being but, nevertheless, need to be honestly examined and explored as part of a visually handicapped person's development of self esteem. In addition to these "ultimate concerns" there is a need to recognise the concerns of others, particularly those triggered by disability. Dealing with these matters freely and frankly and with a broadminded openness brings with it a degree of personal maturity, tolerance and understanding of self and others, so necessary for coping with life as an "unusual" person.

16.4 A broad conceptual framework is essential if visually handicapped persons are to have the opportunity and ability to sift, evaluate and discern those elements of spiritual and emotional life they see as appropriate to their particular selfhood. The spiritual and emotional dimensions of growth are as important as the physical, intellectual, social and cultural aspects of human development. They deserve real emphasis when formulating programmes and services for the visually handicapped - especially for children, youth and their parents. All professionals, especially teachers and field workers, should be aware of the spiritual and emotional aspects of human development and growth as being significant ingredients in the coping mechanisms of the visually handicapped person. Self-awareness and acceptance, self-esteem and self-confidence are all necessary to counteract negative self-concepts so easily induced by an unwitting, materialistic society.

16.5 A visually impaired person's adjustment to the mainstream of life is, in general, less related to the degree of visual loss, time of onset, academic success or failure, than it is to self image, the ability to socialise and being enabled to be productive.

## PART III - RECOMMENDATIONS

### CHAPTER 17: RECOMMENDATIONS: LISTING BY NUMBER

Recommendation 1: To the Department of Education and the RNZFB.

That programmes to assist the parents of congenitally blind children to enhance their children's development be continually reviewed and further developed.

Recommendation 2: To the Department of Education and the RNZFB.

That seminars be arranged to enable parents of blind children, administration and residential staff to discuss how they can best meet the needs of their children in the areas of human development and sexuality.

Recommendation 3: To the Department of Education

That resources be made available for developing a collection of material such as books, tapes, tactile diagrams, dolls and mannikins so that visually impaired children can be assisted to develop an adequate knowledge of human sexuality.

Recommendation 4: To the RNZFB

That the needs of the visually impaired adolescent and young adult be given special attention, and social support groups be established in the main centres.

Recommendation 5: To the Department of Education and RNZFB

That the Department of Education and the RNZFB combine resources to develop a resource package for parents who are blind.

Recommendation 6: To the NZ Society for the Prevention of Blindness, the Social Science Research Fund Committee and the Medical Research Council.

That medical research into congenital and hereditary blindness, particularly in relation to family inheritance patterns in New Zealand be undertaken.

Recommendation 7: To the Ophthalmological Society of New Zealand.

That ophthalmologists provide basic counselling and where required refer clients for specialised genetic counselling, and that a list of genetic counselling facilities be prepared and circulated.

Recommendation 8: To RNZFB and Department of Education.

That all students at Homai College who are about to leave school receive counselling on genetic matters and referral to a specialist where appropriate.

Recommendation 9: To the Medical Research Council.

That research into atherosclerosis and chronic simple glaucoma be encouraged.

Recommendation 10: To the Department of Health.

That the National Health Statistics Centre be responsible for maintaining up to date figures based on RNZFB enrolments.

Recommendation 11: To the Department of Health.

That a system of notification of eye accidents be developed with a suitable form.

Recommendation 12: To the Department of Labour and the Accident Compensation Corporation.

That prevention of eye injury be given greater emphasis.

Recommendation 13: To the New Zealand Squash Association.

That protective eye wear should be worn by all squash players.

Recommendation 14: To the New Zealand Motor Vehicle Assemblers Association.

That mandatory laminated windscreen glass in all new vehicles be monitored.

Recommendation 15: To the Department of Labour and the Accident Compensation Corporation.

That first aid equipment be reviewed yearly, to ensure that it is in suitable condition.

Recommendation 16: To the Accident Compensation Corporation, the Department of Health, and the Retailers Association.

That a safety campaign be developed, including a TV spot and a poster on the availability and types of eye protection safety devices.

Recommendation 17: To the Department of Education.

That sufficient specialist staff be appointed to the resource centres for visually handicapped children to enable them to provide indepth assistance to visually handicapped children in ordinary schools.

Recommendation 18: To the Department of Education.

That the visual resource centre at Homai College which services the Auckland metropolitan district be sufficiently staffed to cater for the needs of visually handicapped students who are attending neighbourhood schools in the greater Auckland area.

Recommendation 19: To the Department of Education.

That a survey of the need for visual resource centres be undertaken in the following areas.

Waikato/Bay of Plenty  
Hawkes Bay  
Manawatu/Wanganui/Taranaki.

Recommendation 20: To the Department of Education.

That all visually handicapped children attending ordinary schools have a form lodged with their school asking that where necessary remedial tuition be instituted without delay.

Recommendation 21: To the Department of Education.

That Teachers College Courses include training in the special needs of students with physical, visual and other disabilities as a compulsory part of the general courses.

Recommendation 22: To the Department of Education.

That in-service courses on working with the visually handicapped child be provided for teachers who have these children in a regular class.

Recommendation 23: To the Department of Education.

That a reduction in roll numbers be granted for teachers who have a visually handicapped child in their regular classroom.

Recommendation 24: To the Department of Education.

That all teachers (student, relieving, etc) when first meeting a class be required to check with the Principal on disabilities recorded for the children in that class.

Recommendation 25: To the Royal NZ Foundation for the Blind.

That the Royal New Zealand Foundation for the Blind, in consultation with the Department of Education, take responsibility for establishing standards of proficiency in specialist areas such as communication, orientation and mobility, and activities of daily living.

Recommendation 26: To the Department of Health.

That an annual course for the training of vision - hearing testers be held.

Recommendation 27: To the Department of Health.

That a suitable training programme be developed to ensure that untrained screeners are not working.

Recommendation 28: To the Department of Health.

That urgent consideration be given to the problems of the vision - hearing tester caused by higher turnover, low salary, and inadequate staff numbers and that steps be taken to overcome these problems.

Recommendation 29: To the Department of Health.

That every child be screened for eye defects at 6 weeks, 6 months, 9 months, and vision screened at 3 years and 5 years of age, as part of developmental health care during child health checks.



Recommendation 30: To the Plunket Society and the Department of Health.

That the report forms on vision testing used by the Department and the Society be standardised.

Recommendation 31: To the Department of Health.

That the Department of Health annually publish for each district the statistics relating to regular vision screening of children.

Recommendation 32: To the Department of Health.

That sufficient numbers of health personnel be made available to ensure more adequate screening coverage.

Recommendation 33: To the Department of Health.

That the Department of Health undertake a multicultural publicity campaign through the media, particularly television, aimed at educating parents in the desirability of screening for visual acuity before the child's 4th birthday in order to identify and effectively reverse the effects of amblyopia, and providing information on how to have their child screened.

Recommendation 34: To the Department of Health.

That adequate follow-up procedures to screening are developed which ensure diagnosis and assistance where needed.

Recommendation 35: To the Department of Education and Health.

That regular eye testing of visual acuity be conducted on children in special or assessment classes and on children enrolled in all special schools.

Recommendation 36: To the Departments of Health, Education and Social Welfare

That assessments of children in institutions include assessment of visual status.

Recommendation 37: To the Departments of Education and Health.

That vision screening of all children at Form IV level be given priority.

Recommendation 38: To the Ministry of Transport.

That the Ministry of Transport establishes a Committee to look at the issues surrounding drivers' visual fitness to drive, and the ethical problems involved in reporting on visual fitness.

Recommendation 39: To the Ministry of Transport

That all motor-vehicle licence holders be legally required to notify the licensing authority of any marked deterioration in vision or co-ordination.



Recommendation 40: To the BCNZ, NZ Planning Council and the Communications Advisory Council.

That overseas developments in the conversion of Teletext and Videotext services into forms suitable for blind users be monitored and made available in New Zealand, and radio for the print-handicapped be further developed.

Recommendation 41: To the Design Council

That evaluation of worthwhile design for consumer lighting appliances should also consider design features which are ergonomically sound for a person with reduced visual acuity.

Recommendation 42: To the Department of Labour, Rehabilitation League and the Royal New Zealand Foundation for the Blind.

That the Department of Labour, Rehabilitation League and Royal New Zealand Foundation for the Blind set up a working group dealing with vocational training and employment related issues in order to:

- . clarify present facilities and services available to the visually impaired person.
- . suggest ways in which these resources could be better utilised.
- . investigate the need for additional resources to be allocated to areas of vocational training and facilitation of employment.

Recommendation 43: To the Department of Education.

That teachers have the resources to provide blind children with an appropriate exercise programme and are encouraged to include blind children in games and physical education.

Recommendation 44: To Local Authorities

That libraries install closed circuit T.V.'s for users with visual impairment and use appropriate technology as it develops to make books accessible to people with visual impairments.

Recommendation 45: To the Disabled Persons Assembly and RNZFB.

That the Disabled Persons Assembly and the RNZFB encourage participation in recreation and sport by their members, and approach restaurants with a request for Braille menus.

Recommendation 46: To the Hilary Commission.

That sporting bodies and recreational clubs be encouraged to include people with visual impairments in their activities and to be aware of their special needs.

Recommendation 47: Queen Elizabeth II Arts Council.

That the needs of disabled people, particularly those with a sight disability, be taken into account when programmes are devised.

Recommendation 48: To the Departments of Health, Social Welfare and Education, and to the RNZ Foundation for the Blind, the NZ Crippled Children Society and the NZ Society for Intellectually Handicapped.

That a working group be set up to co-ordinate services to multi-handicapped children and adults and the provision of services to parents of multi-handicapped children.

Recommendation 49: To the Department of Health

That urgent consideration is given to the extension of current hospital-based services to include Low Vision Clinics, particularly in the Auckland and Waikato Hospital Boards.

Recommendation 50: To the Department of Health

That Occupational Therapists with special post-basic training in low vision be made available to Low Vision Clinics.

Recommendation 51: To the Royal NZ Foundation for the Blind.

That a national low vision aids and appliances display should be established after consultation between the R.N.Z.F.B, the Independent Living Centres, Low Vision Clinics and other interested parties.

Recommendation 52: To the NZ Consumers Institute.

That the Consumer Institute recognise the special difficulties of disabled people (including those with low vision) in its evaluation of consumer equipment.

Recommendation 53: To the Department of Health.

That the Hospital Schedule list be expanded to include all commonly utilised low vision optical aids.

Recommendation 54: To the Department of Health.

That consideration be given towards providing a subsidy towards the cost of children's spectacles.

Recommendation 55: To the Royal NZ Foundation for the Blind.

That whether or not the R.N.Z.F.B. subsidises the aid, the Foundation could become the contracting party to a purchase on behalf of its members. The Foundation should also determine the title of ownership so that the responsibility for maintenance and eventual sale of redundant equipment is clearly established.

Recommendation 56: To Hospital Boards.

That a uniform policy concerning the subsidised supply of visual and non-visual aids be adopted by all Hospital Boards.

Such a policy could include for all low vision aids utilising plastic lenses a rental of 25% per annum be charged, for all low vision aids utilising glass lenses a rental of 20%, and for durable low vision aids such as reading stands and anglepoise lamps a rental per annum related to their depreciation rate.



## CHAPTER 18: RECOMMENDATIONS: LISTING BY TARGET AGENCY

### ACCIDENT COMPENSATION CORPORATION

Recommendation 12: To the Department of Labour and the Accident Compensation Corporation.

That prevention of eye injury be given greater emphasis.

Recommendation 15: To the Department of Labour and the ACC.

That first aid equipment be reviewed yearly to ensure that it is in suitable condition.

Recommendation 16: To the Accident Compensation Corporation, the Department of Health and the Retailers Association.

That a safety campaign be developed, including a TV spot and a poster on the availability and types of eye protection safety devices.

### BROADCASTING CORPORATION

Recommendation 40: To the BCNZ, NZ Planning Council and the Communications Advisory Council.

That overseas developments in the conversion of Teletext and Viewdata services into forms suitable for blind users be monitored and made available in New Zealand, and radio for the print-handicapped be further developed.

### DEPARTMENT OF EDUCATION

Recommendation 1: To the Department of Education R.N.Z.F.B.:

That programmes to assist the parents of congenitally blind children to enhance their children's development be continually reviewed and further developed.

Recommendation 2: To the Department of Education and the RNZFB.

That seminars be arranged to enable parents of blind children, administration and residential staff to discuss how they can best meet the needs of their children in the areas of human development and sexuality.



Recommendation 3: To the Department of Education.

That resources be made available for developing a collection of material such as books, tapes, tactile diagrams, dolls and mannikins so that visually impaired children can be assisted to develop an adequate knowledge of human sexuality.

Recommendation 5: To the Department of Education and RNZFB.

That the Department of Education and the RNZFB combine resources to develop a resource package for parents who are blind.

Recommendation 6: To RNZFB and Department of Education.

That all students of Homai who are about to leave school receive counselling on genetic matters and referral to a specialist where appropriate.

Recommendation 17: To the Department of Education.

That sufficient specialist staff be appointed to the resource centres for visually handicapped children to enable them to provide indepth assistance to visually handicapped children in ordinary schools.

Recommendation 18: To the Department of Education.

That the visual resource centre at Homai College, which services the Auckland metropolitan district, be sufficiently staffed to cater for the needs of visually handicapped students who are attending neighbourhood schools in the greater Auckland area.

Recommendation 19: To the Department of Education.

That a survey of the need for visual resource centres be undertaken in the following areas.

Waikato/Bay of Plenty  
Hawkes Bay  
Manawatu/Wanganui/Taranaki.

Recommendation 20: To the Department of Education.

That all visually handicapped children attending ordinary schools have a form lodged with their school asking that remedial tuition be instituted when necessary.

Recommendation 21: To the Department of Education.

That Teachers College Courses include training in the special needs of students with physical, visual and other disabilities as a compulsory part of the general courses.

Recommendation 22: To the Department of Education.

That in-service courses in working with the visually handicapped child be provided for teachers who have these children in a regular class.

Recommendation 23: To the Department of Education.

That a reduction in roll numbers be granted for teachers who have a visually handicapped child in their regular classroom.

Recommendation 24: To the Department of Education.

That all teachers (student, relieving, etc) when first meeting a class be required to check with the Principal on disabilities recorded for the children in that class.

Recommendation 35: To the Department of Education and Health.

That regular eye testing of visual acuity be conducted on children in special or assessment classes, and on children enrolled in all special schools.

Recommendation 36: To the Departments of Health, Education and Social Welfare Committee.

That assessments of children in institutions include assessment of visual status.

Recommendation 37: To the Departments of Education and Health.

That vision screening of all children at Form IV level be given priority.

Recommendation 43: To the Department of Education.

That teachers have the resources to provide blind children with an appropriate exercise programme and are encouraged to include blind children in games and physical education.

Recommendation 48: To the Departments of Health, Social Welfare and Education, and to the RNZ Foundation for the Blind, the NZ Crippled Children Society and the NZ Society for Intellectually Handicapped.

That a working group be set up to co-ordinate services to multi-handicapped children and adults and the provision of services to parents of multi handicapped children.

#### DEPARTMENT OF HEALTH

Recommendation 10: To the Department of Health.

That the National Health Statistics Centre maintain up to date figures based on RNZFB enrolments.

Recommendation 11: To the Department of Health.

That a system of notification of eye accidents be developed with a suitable form.

Recommendation 16: To the Accident Compensation Corporation, the Department of Health and the Retailers Association.

That a safety campaign be developed, including a TV spot and a poster on the availability and types of eye protection safety devices.

Recommendation 26: To the Department of Health.

That an annual course for the training of vision - hearing testers must be held.

Recommendation 27:

That a suitable training programme be developed to ensure that untrained screeners are not working.

Recommendation 28: To the Department of Health.

That urgent consideration is given to the problems of the vision - hearing tester caused by higher turnover, low salary, and inadequate staff numbers, and that steps be taken to overcome these problems.

Recommendation 29: To the Department of Health.

That every child be screened for eye defects at 6 weeks, 6 months, 9 months, and vision screened at 3 years and 5 years of age, as part of developmental health care during child health checks.

Recommendation 30: To the Plunket Society and the Department of Health.

That the report forms on vision testing used by the Department and the Society be standardised.

Recommendation 31: To the Department of Health.

That the Department of Health annually publish for each district the statistics relating to regular vision screening of children.

Recommendation 32: To the Department of Health.

That sufficient numbers of health personnel be made available to ensure more adequate screening coverage.

Recommendation 33: To the Department of Health.

That the Department of Health undertake a multicultural publicity campaign through the media, particularly television, aimed at educating parents to the desirability of screening for visual acuity before the child's 4th birthday in order to identify and effectively reverse the effects of amblyopia, and providing information on how to have their child screened.

Recommendation 34: To the Department of Health.

That adequate follow-up procedures to screening are developed which ensure diagnosis and assistance where needed.

Recommendation 35: To the Department of Education and Health.

That regular eye testing of visual acuity be conducted on children in special or assessment classes, and on children enrolled in all special schools.

Recommendation 36: To the Department of Health, Education and Social Welfare Committee.

That assessments of children in institutions include assessment of visual status.

Recommendation 37: To the Department of Education and Health.

That vision screening of all children at Form IV level be given priority.

Recommendation 48: To the Departments of Health, Social Welfare and Education, and to the RNZ Foundation for the Blind, the NZ Crippled Children Society and the NZ Society for Intellectually Handicapped.

That a working group be set up to co-ordinate services to multi-handicapped children and adults and the provision of services to parents of multi handicapped children.

Recommendation 49: To the Department of Health.

That urgent consideration is given to the extension of current hospital-based services to include low vision clinics, particularly in Auckland and Waikato Hospital Board.

Recommendation 50: Department of Health

That Occupational Therapists with special post-basic training in low vision be made available to Low Vision Clinics.

Recommendation 53: To the Department of Health.

That the Hospital Schedule list be expanded to include all commonly utilised low vision optical aids.

Recommendation 54: To the Department of Health.

That consideration be given towards providing a subsidy towards the cost of children's spectacles.

DEPARTMENT OF LABOUR

Recommendation 15: To the Department of Labour and the ACC.

That first aid equipment be reviewed yearly to ensure that it is in suitable condition.

Recommendation 42: To the Department of Labour, Rehabilitation League and the Royal New Zealand Foundation for the Blind.

That the Department of Labour, Rehabilitation League and Royal New Zealand Foundation for the Blind set up a working group dealing with vocational training and employment related issues in order to:

- . clarify present facilities and services available to the visually impaired person;
- . suggest ways in which these resources could be better utilised;
- . investigate the need for additional resources to be allocated to areas of vocational training and facilitation of employment.

DEPARTMENT OF SOCIAL WELFARE

Recommendation 36: To the Departments of Health, Education and Social Welfare.

That assessments of children in institutions include assessment of visual status.

Recommendation 48: To the Departments of Health, Social Welfare and Education, and to the RNZ Foundation for the Blind, the NZ Crippled Children Society and the NZ Society for Intellectually Handicapped.

That a working group be set up to co-ordinate services to multi-handicapped children and adults and the provision of services to parents of multi handicapped children.

MINISTRY OF TRANSPORT

Recommendation 38: To the Ministry of Transport.

That the Ministry of Transport establishes a Committee to look at the issues surrounding drivers' visual fitness to drive and the ethical problems involved in reporting on visual fitness.



Recommendation 39: To the Ministry of Transport

That all motor-vehicle licence holders be legally required to notify the licensing authority of any marked deterioration in vision or co-ordination.

ROYAL NEW ZEALAND FOUNDATION FOR THE BLIND

Recommendation 1: To the Department of Education and the R.N.Z.F.B.:

That programmes to assist the parents of congenitally blind children to enhance their children's development be continually reviewed and further developed.

Recommendation 2: To the Department of Education and the RNZFB.

That seminars be arranged to enable parents of blind children, administration and residential staff to discuss how they can best meet the needs of their children in the areas of human development and sexuality.

Recommendation 4: To the RNZFB.

That the needs of the visually impaired adolescent and young adult be given special attention, and social support groups be established in the main centres.

Recommendation 5: To the Department of Education and RNZFB.

That the Department of Education and the RNZFB combine resources to develop a resource package for blind parents.

Recommendation 25: To the Royal NZ Foundation for the Blind.

That the Royal New Zealand Foundation for the Blind, in consultation with the Department of Education, take responsibility for establishing standards of proficiency in specialist areas such as communication, orientation and mobility, and activities of daily living.

Recommendation 42: To the Department of Labour, Rehabilitation League and the Royal New Zealand Foundation for the Blind.

That the Department of Labour, Rehabilitation League and Royal New Zealand Foundation for the Blind set up a working group dealing with vocational training and employment related issues in order to:

- . clarify present facilities and services available to the visually impaired person;
- . suggest ways in which these resources could be better utilised;

- . investigate the need for additional resources to be allocated to areas of vocational training and facilitation of employment.

Recommendation 45: To the Disabled Persons Assembly and the Royal NZ Foundation for the Blind.

That the Disabled Persons Assembly and the RNZFB encourage participation in recreation and sport by its members, and approach restaurants with a request for Braille menus.

Recommendation 48: To the Departments of Health, Social Welfare and Education, and to the RNZ Foundation for the Blind, the NZ Crippled Children Society and the NZ Society for Intellectually Handicapped.

That a working group be set up to co-ordinate services to multi-handicapped children and adults and the provision of services to parents of multi handicapped children.

Recommendation 51: To the Royal NZ Foundation for the Blind.

That a national low vision aids and appliances display should be established after consultation between the R.N.Z.F.B, the Independent Living Centres, Low Vision Clinics and other interested parties.

Recommendation 55: To the Royal NZ Foundation for the Blind.

That whether or not the R.N.Z.F.B. subsidises the aid, the Foundation could become the contracting party to a purchase on behalf of its members. The Foundation should also determine the title of ownership so that the responsibility for maintenance and eventual sale of redundant equipment is clearly established.

NEW ZEALAND SOCIETY FOR THE PREVENTION OF BLINDNESS

Recommendation 6: To the NZ Society for the Prevention of Blindness, the Social Science Research Fund Committee and the Medical Research Council.

That medical research into congenital and hereditary blindness, particularly in relation to family inheritance patterns in New Zealand be undertaken.

NZ CRIPPLED CHILDREN SOCIETY

Recommendation 48: To the Departments of Health, Social Welfare and Education, and to the RNZ Foundation for the Blind, the NZ Crippled Children Society and the NZ Society for Intellectually Handicapped.

That a working group be set up to co-ordinate services to multi-handicapped children and adults and the provision of services to parents of multi handicapped children.

DISABLED PERSONS ASSEMBLY

Recommendation 45: To the Disabled Persons Assembly and RNZFB.

That the Disabled Persons Assembly and the RNZFB encourage participation in recreation and sport by its members, and approach restaurants with a request for Braille menus.

NZ SOCIETY FOR INTELLECTUALLY HANDICAPPED

Recommendation 48: To the Departments of Health, Social Welfare and Education, and to the RNZ Foundation for the Blind, the NZ Crippled Children Society and the NZ Society for Intellectually Handicapped.

That a working group be set up to co-ordinate services to multi-handicapped children and adults and the provision of services to parents of multi handicapped children.

REHABILITATION LEAGUE

Recommendation 42: To the Department of Labour, Rehabilitation League and the Royal New Zealand Foundation for the Blind.

That the Department of Labour, Rehabilitation League and Royal New Zealand Foundation for the Blind set up a working group dealing with vocational training and employment related issues in order to:

- . clarify present facilities and services available to the visually impaired person;
- . suggest ways in which these resources could be better utilised;
- . investigate the need for additional resources to be allocated to areas of vocational training and facilitation of employment.

#### HOSPITAL BOARDS

Recommendation 56: To Hospital Boards.

That a uniform policy concerning the subsidised supply of visual and non-visual aids be adopted by all Hospital Boards.

Such a policy could include:

- . For all aids utilising plastic lenses a rental of 25% per annum be charged, for all aids utilising glass lenses a rental of 20% per annum be charged, for durable aids such as reading stands and anglepoise lamps a rental per annum related to their depreciation rate.

#### THE OPHTHALMOLOGICAL SOCIETY OF NZ

Recommendation 7: To the Ophthalmological Society of New Zealand.

That ophthalmologists provide basic counselling and where required refer clients for specialised genetic counselling, and that a list of genetic counselling facilities be prepared and circulated.

#### ROYAL NZ PLUNKET SOCIETY

Recommendation 30: To the Plunket Society and the Department of Health.

That the report forms on vision testing used by the Department and the Society be standardised.

#### LOCAL AUTHORITIES

Recommendation 44: To Local Authorities

That libraries install closed circuit T.V.'s.

NZ CONSUMERS INSTITUTE

Recommendation 52: To the NZ Consumers Institute.

That the Consumers Institute recognise the special difficulties of disabled people (including those with low vision) in its evaluation of consumer equipment.

DESIGN COUNCIL

Recommendation 41: To the Design Council.

That evaluation of worthwhile design for consumer lighting appliances should also consider design features which are ergonomically sound for a person with reduced visual acuity.

HILARY COMMISSION

Recommendation 46: To the Hilary Commission.

That sporting bodies and recreational clubs be encouraged to include people with visual impairments in their activities and to be aware of their special needs.

MEDICAL RESEARCH COUNCIL

Recommendation 6: To the Society for the Prevention of Blindness, the Social Science Research Fund Committee and the Medical Research Council.

That medical research into congenital and hereditary blindness, particularly in relation to family inheritance patterns in New Zealand be undertaken.

Recommendation 9: To the Medical Research Council.

That research into atherosclerosis and chronic simple glaucoma be encouraged.

NZ PLANNING COUNCIL

Recommendation 40: To the BCNZ, NZ Planning Council and the Communications Advisory Council.

That overseas developments in the conversion of Teletext and Viewdata services into forms suitable for blind users be monitored and made available in New Zealand, and radio for the print-handicapped be further developed.



QUEEN ELIZABETH II ARTS COUNCIL

Recommendation 47: Queen Elizabeth II Arts Council.

That the needs of disabled people, particularly those with a sight disability, be taken into account when programmes are devised.

SOCIAL SCIENCE RESEARCH FUND COMMITTEE

Recommendation 6: To the Society for the Prevention of Blindness, the Social Science Research Fund Committee and the Medical Research Council.

That medical research into congenital and hereditary blindness, particularly in relation to family inheritance patterns in New Zealand be undertaken.

NZ MOTOR VEHICLE ASSEMBLERS ASSOCIATION

Recommendation 14: To the New Zealand Motor Vehicle Assemblers Association.

That mandatory laminated windscreen glass in all new vehicles be monitored.

RETAILERS ASSOCIATION

Recommendation 16: To the Accident Compensation Corporation, the Department of Health and the Retailers Association.

That a safety campaign be developed, including a TV spot and a poster on the availability and types of eye protection safety devices.

NZ SQUASH ASSOCIATION

Recommendation 13: To the New Zealand Squash Association.

That protective eye wear should be worn by all squash players.

## APPENDIX I

### GLOSSARY

<u>Albinism:</u>	A lack of pigment in the skin, hair and eyes. Albinism is a rare disorder and not harmful, although photophobia (an abnormal sensitivity to light) and nystagmus may occur because the eye structures are not protected from light by the pigment.
<u>Amblyopia:</u>	If the visual axes of both eyes are not parallel two images are perceived. Because this double vision (diplopia) is intolerable, the image from the squinting eye is suppressed. This leads to loss of vision in the affected eye, or amblyopia. Commonly known as "lazy eye".
<u>Astigmatism:</u>	A disorder in which images do not focus properly on the retina because the cornea and sometimes the lens, has an uneven curvature.
<u>Atherosclerosis:</u>	Occluding or closing of the blood vessels.
<u>Blindness:</u>	As defined by RNZFB for enrolment, blindness is 6/60 or worse or a restriction of the visual fields to a diameter of 20° or less. As defined by the Department of Social Welfare, blindness is 3/60 or worse or restriction of the visual field to a diameter of 10° or less. Profound            3/60 to better than 1/60; Near total        1/60 to light perception; Total               no light perception.
<u>Cataract:</u>	Opacity in the lens caused by changes in lens fibres severe enough to affect vision. With senile cataract there is increasing clouding of the lens until the lens becomes white and opaque.
<u>Choroid:</u>	The main circulatory layer of the eye through which blood is carried to nourish the various parts of the eye.
<u>Ciliary Body</u>	Muscle tissue which alters the focussing of the lens and forms the eye's aqueous humour.
<u>Conjunctiva:</u>	A thin membrane which lines the lids then bends back over the surface of the eyeball.
<u>Cornea:</u>	The transparent window of the eye.
<u>Detached retina:</u>	A separation of part of the retina from the underlying tissues of the eyeball.

<u>Glaucoma:</u>	An eye disease characterised by increased pressure within the eyeball which damages the optic nerve. Untreated, there is complete or partial blindness.
<u>Hypermetropia</u>	Commonly called longsightedness; an optical error in which an image focuses behind the retina instead of on it.
<u>Hyphaema:</u>	Bleeding from the iris into the anterior chamber of the eye. Frequently the result of trauma.
<u>Iris:</u>	The coloured part of the eye which forms the variable aperture of the eye, the pupil.
<u>Keratitis:</u>	Any inflammation of the cornea.
<u>Macula:</u>	The central area of the retina which is responsible for sharp central vision.
<u>Macular Degeneration</u>	Degeneration of the macula, usually with increasing age, leading to a loss of central visual acuity.
<u>Myopia:</u>	Commonly known as short sightedness. An optical error in which the image focuses in front of the retina instead of on it.
<u>Nystagmus:</u>	An involuntary movement of the eye back and forth, up and down, or in a rotatory or mixed fashion. Often present at birth but also caused by diseases of the nervous system.
<u>Orbit</u>	The bony cavity in the skull that contains the globe of the eye, the muscles that move the eye, the lacrimal gland and the blood vessels and nerves required to supply these structures.
<u>Optic atrophy:</u>	Any condition in which the fibres of the optic nerve degenerate and finally die, causing corresponding loss of vision: Glaucoma can cause optic atrophy.
<u>Optic Chiasma:</u>	The place where the optic nerves criss-cross.
<u>Optic Nerve:</u>	A collection of specialised nerve fibres derived from the retina which unite and send visual impulses to the brain.
<u>Optic Neuritis:</u>	Inflammation of the optic nerve or its surrounding sheath. The majority of cases are manifestations of multiple sclerosis.

<u>Pupil:</u>	Aperture in the iris, regulating the amount of light entering the eye.
<u>Refractive Error:</u>	Any defect which prevents light rays from focussing properly on the retina.
<u>Retina:</u>	A thin transparent sheet of nervous tissue lining the back two-thirds of the eyeball. It functions as the receptor of visual stimuli which it transmits to the brain through the optic nerves.
<u>Retinitis Pigmentosa:</u>	An hereditary condition. The rod-shaped cells in the retina lose the ability to transmit information to the brain. The more peripheral parts of the retina are affected first. The field of vision progressively deteriorates until only a small tubular field remains.
<u>Retinopathy:</u>	Any disease or disorder of the retina, usually associated with impairment of vision. It can be caused by diabetes, and diabetic retinopathy is a major cause of blindness.
<u>Retrobulbar Neuritis:</u>	Inflammation of the optic nerve lying behind the eyeball which may lead to sclerosis or scarring.
<u>Retrolental Fibroplasia:</u>	An abnormal growth of scar tissue in the gel-like substance at the back of the eyeball, accompanied by abnormal blood vessel growth and retinal detachment. Caused by administering high concentrations of oxygen to premature babies.
<u>Sclera:</u>	The white of the eye. The fibrous covering beneath the transparent conjunctiva.
<u>Strabismus:</u> (or Squint)	A constant failure of the eyes to maintain parallel visual axes, commonly called crossed eyes.
<u>Tunnel vision:</u>	This is a critical deficiency of peripheral vision, often the result of glaucoma. It is possible to have normal central vision and still have a peripheral visual field loss.
<u>Uveal Tract:</u>	A vascular layer of tissue lying next to the white of the eye, consisting of the iris, the ciliary body and the choroid.
<u>Uveitis:</u>	Inflammation of part or whole of the uveal tract.
<u>Visual field:</u>	The entire view encompassed by the eye when it is looking in a given direction.

APPENDIX II

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## APPENDIX III

### THE ADVISORY COUNCIL FOR THE COMMUNITY WELFARE OF DISABLED PERSONS

The Advisory Council for the Community Welfare of Disabled Persons was established under the provisions of the Disabled Persons Community Welfare Act (1975) and is directly advisory to the Minister of Social Welfare and the Under Secretary to the Minister, on matters concerning the community welfare and rehabilitation of people with disabilities. In addition to the Chairman there are five private members, and five official members representing the Accident Compensation Corporation and the Departments of Health, Education, Labour and Social Welfare.

#### Membership of the Advisory Council for the Community Welfare of Disabled Persons

Mr J G S Reid (Chairman)  
Mr B Buick-Constable  
Mr D M McKenzie  
Ms V Naylor  
Mrs G Rapley  
Mr J J Weir  
Mr V Morel (Accident Compensation Corporation)  
Dr M Guthrie (Department of Health)  
Mr D Brown (Department of Education)  
Mr J Jamieson (Department of Labour)  
Mr P Thomas (Department of Social Welfare)

#### Membership of the Low Vision Services Working Party

Dr D Sturman (Convenor)  
Dr L Boulton  
Mr J J Brophy (retired)  
Mr D Brown  
Mr A Q Bruce (retired)  
Dr E R Dowden  
Mr G F Gibbs  
Mr D M McKenzie  
Mr P J Turner

Secretariat: Ms M K Geddes (until 1987)  
Ms J Baird (until 1981)  
Ms L Jacobs (until 1982)  
Ms A Carpinter (until 1987)



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K58 Focus on vision: people  
Ad96 who are blind or visually  
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